FEATURE

Practices of Cooperative Learning in Synchronous Meetings at an International Faith-based Elementary School in the Philippines: A Case Study

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Abstract. *Covid 19 had an enormous impact on the delivery system of education. Synchronous Zoom meetings have been a great help in distance learning in the elementary school. This article aimed to explore the practices of cooperative learning at an international faith-based school in the Philippines. A qualitative single case study is used as the research design to find out the practices of cooperative learning in the synchronous Zoom classes. Data collection was conducted by using individual in-depth interviews and Zoom classroom observations. Findings were revealed in four major themes: virtual cooperative learning practices, attributes of teachers for cooperative learning implementation, challenges of implementing cooperative learning in synchronous classes, and administrative support for teachers' needs. The recommendations could be to conduct studies regarding elementary teachers' readiness for online learning and the experiences of cooperative learning from the perspective of elementary students. The administrative support could be to provide a teacher assistant, visit each classroom occasionally, provide necessary electronic gadgets, and upgrade the Zoom account to extend the class duration.*

Keywords: cooperative learning practices, synchronous zoom meetings, faith-based institution, Philippines, Asia, qualitative single case study, elementary teachers

Introduction

The use of cooperative learning can assist 21st-century learners to develop in various aspects of life. Cooperative learning is considered as one of the indispensable methods for active learning despite the multicultural background of students who may be found in a global village (Gisbert, Seuba, & Coll, 2017; Johnson, Johnson, & Smith, 2014; Johnson & Johnson, 2018). Cooperative learning has been proven effective in ESL/EFL classes (Vellayan et al., 2021; Chen, 2021), creativity development (Marashi & Khatami, 2017), social skills (Guzmán Castillo, 2018), problem-solving skills (Johnson & Johnson, 2018), and in face-to-face classes when assisted by computer and technology (Yu & Yuizono, 2021).

Cooperative learning involves a mutual effort by both student and teacher. In cooperative learning, students have to sit in small groups and have the opportunity to increase their learning ability by interacting with their group mates to achieve shared goals (Green & Henrique-Green, 2008; Johnson et al., 2014; Tamah, 2014; Johnson & Johnson, 2018). According to Sharan (2015), cooperative learning "was never a uniform, homogenous approach to teaching and learning; it was born to several 'parents' who nurtured it with complementary theories" (p. 8). These parents have provided a firm reason that cooperative learning should be promoted because of its contribution to meaningful learning of students cognitively and socially. Therefore, it is important that schools should incorporate cooperative learning in classroom settings to provide education that encourages both social and academic improvement.

Teachers are the people who mostly associate with pupils in elementary classrooms. They are very important because of their role in conveying schools' curriculum to the students. Moreover, the effectiveness of teachers plays a significant role in the academic progress of pupils. Effective teachers know how and when to use appropriate strategies, design a curriculum that best suits students' needs, and have good classroom management skills (Marzano, Marzano, & Pickering, 2003). Teachers must practice both formal and informal cooperative learning groups in their teaching. Formal cooperative learning groups are established for a long period of time that students can finish the given tasks. Students should be given sufficient time to complete assigned tasks in this formal group learning (Johnson et al., 2014; Marzano, Pickering & Pollock, 2001; Johnson & Johnson, 2018). The application of informal learning groups enhances students' concentration, ensures clear instruction on activities, and offers enough time for deeper understanding of the instruction. For instance, think-pair-share and the structures that encourage students to work in a short duration of time are examples of informal cooperative learning (Marzano et al., 2001). The teacher's roles in formal cooperative learning are to (a) specify lesson objectives;   (b) decide beforehand how to organize the classroom, teaching aids and the job of learners in the groups; (c) help learners understand the expectations; (d) set the subject content

into cooperative learning; (e) observe and support when necessary as students are engaged in groups; and (f) evaluate the progress of learners and support them to evaluate their teamwork (Johnson, Johnson, Holubec, & Holubec, 1994).

Many institutions around the globe shifted to online or distance learning after the breakout of the coronavirus in Wuhan in 2019 (Adedoyin & Soykan, 2020; Onyema et al., 2020). Moreover, a significant number of schools at all levels, from elementary to higher education, were closed for face-to-face physical classes (Mirahmadizadeh et al., 2020). In the Philippines, the K-12 classes up to the college level, graduate, and postgraduate are prohibited from meeting face-to-face in physical classrooms (Avila & Genion, 2020).

Challenges arise as educational institutions adopt online learning around the globe, especially in technology and pedagogical practices (Tukan, 2020; Spathis & Dey, 2020). For instance, in one of the Indonesian schools, 73.9% of teachers at the elementary level think that online learning is ineffective (Fauzi & Khusuma, 2020). In the case of institutions that do not have sufficient resources for the adoption of online education, it is more challenging for the students to learn (Onyema et al., 2020). Moreover, teachers are not trained to teach in synchronous online platforms prior to the sudden transition of lesson delivery (Henriksen, Creely, & Henderson, 2020). Therefore, one of the suggestions to support teachers is to include pedagogical trainings both in Information and Communication Technologies and incorporation of cooperative learning practices in the online system of education (Ivone, Jacobs, & Renandya, 2020).

However, during lockdown and quarantine periods, online learning became an outstanding option to create a learning environment for students to keep them connected to learning (Onyema et al., 2020; Sharma & Bumb, 2021). Students may stay at home and avoid physical interaction with others. At the same time, they can keep up with their studies at school (Amiti, 2020).

Among the various types of online learning, synchronous online learning is focused on in this study. Synchronous online learning is the delivery of lessons via the support of media such as Zoom and other platforms that provide opportunity for students for interaction in real time (Amiti, 2020; Hrastinski, 2008). On the other hand, asynchronous online learning occurs in a different time and space, usually facilitated via email (Amiti, 2020; Hrastinski, 2008). If synchronous and asynchronous online learnings are implemented appropriately in an education setting, instructors and learners will benefit from the outcomes (Amiti, 2020). However, it is one of the challenges to provide interactive learning experiences in synchronous delivery (Spathis & Dey, 2020). Moreover, synchronous online learning teaching strategies must be explored for effective teaching and learning (Balan, Jacintos, & Montemayor, 2020).

Meanwhile, cooperative learning practices are possible to be implemented in synchronous online classes (Ivone et al., 2020). Moreover, it unlocks the opportunities for students for broader communicative channels, mutual reciprocity,

and the addition of social aspects in distance learning (Jacobs & Ivone, 2020). It is not also an individual strategy, but it consists of teaching strategies that encourage students' engagement in their group works (Qiang, 2018). Because of its effective influence on student-centered learning, cooperative learning is the suitable instruction in every phase of education around the globe (Gisbert et al., 2017).

Cooperative learning can be explored as one of the online synchronous instructional practices that has the potential to develop students' social skills, academic excellence, and personal motivation (Cousik, 2015; Green & Henrique-Green, 2008). However, cooperative learning is not utilized widely in synchronous Zoom classes due to its complication and extra preparation required of the instructor (Ivone et al., 2020). This is the practical knowledge research gap, according to Miles (2017), to explore the cooperative learning practices in synchronous online classes. Therefore, the purpose of this study is to explore (a) how cooperative learning is being conducted in the virtual learning platforms; (b) the challenges that teachers encounter in using cooperative learning, (c) the types of cooperative learning techniques, structure or strategies being used, and (d) future plans of teachers for the improvement in using cooperative learning. The results of this study would be able to assist teachers in incorporating cooperative learning in synchronous online learning, which would prolong as a new normal of education. Moreover, practical knowledge would be added to the realm of research. Finally, the school administrators would be informed on how synchronous online teaching could be enhanced and supported. The research questions guiding this study are as follows:

1. What are the possible cooperative learning strategies practiced in virtual classrooms?

2. How are cooperative learning strategies, structures, and techniques conducted in virtual settings?

3. How can the teachers be prepared to conduct cooperative learning in virtual settings?

4. What are the barriers that teachers encounter when practicing cooperative learning virtually?

5. How can the administrators support the implementation of cooperative learning?

Review of Literature

The following section provides information on what has been recorded in the literature about the background practices of the study. The review of literature presented in this part of the study is an overview of what experts have said about cooperative learning. It also followed the process of broad scan, focused review, and comprehensive critique (Joyner, Rouse, & Glatthorn, 2013). Different sources of references from Adventist International Institute of Advanced Studies library, journal articles, and Google scholar were used to put together important facts about cooperative learning.

Theory Basis

Cooperative learning is based firmly on the theory of social interdependence which was initiated by Kurt Koffa in the beginning of the 1990s. This theory is the backbone of cooperative learning and encourages the achievement of behaviors that promote cooperative and competitive learning (Cockerill, Craig, & Thurston, 2018; Johnson et al., 2014). Since the social interdependence theory encourages motivation, accomplishment, and constructive belief in success, educational experts can practice this theory to help students gain motivation, excel in performance, and develop social interactions.

Motivation is developed through the sense of responsibility for each other's goals, and students excel in performance as they cooperate for the sake of success. In this way, social interdependence is like a bridge that connects the positive rapport and cooperative aim. Therefore, in cooperative learning, positive interdependence is present. Based on the social interdependence theory, cooperative learning has become prominent for its achievement in both social and educational psychology. Furthermore, it is recommended by the practitioners because of its constructive effect, increase in peer interrelationships, and its efficient interaction of theory, research, and instructor's application (Cockerill et al., 2018).

There are three types of social interdependence theory. They are (a) cooperative learning, (b) competitive learning, and (c) individualistic learning. According to Johnson et al. (2014), "Cooperative learning is the instructional use of small groups so that students work together to maximize their own and each other's learning" (p. 3). Competitive learning encourages competition in learning, whereas individualistic learning supports students to learn individually (Johnson et al., 2014). Among these three theories, cooperative learning outstands the other two because it promotes and produces positive interaction among students in obtaining a shared goal. Positive interaction among students is absent in competitive and individualistic learning (Cockerill et al., 2018; Gillies, 2016; Johnson et al., 2014; Johnson & Johnson, 2018).

Critical Attributes of Cooperative Learning

Cooperative learning is operated by grouping activities. However, mere grouping activities would not occur unless the essential elements of cooperative learning are practiced. It is only when the five attributes of cooperative learning are accomplished that learning becomes effective and meaningful (Johnson & Johnson, 2018). These attributes are (a) positive interdependence, (b) individual accountability, (c) group processing, (d) social skills, and (e) face-to-face interaction (Green & Henrique-Green, 2008; Gaikwad, 1996; Johnson et al., 2014; Sharan, 2015; Johnson & Johnson, 2018).

Positive Interdependence

This attribute is derived from the core foundation of cooperative learning, the social interdependence theory. This is accomplished when the task of each student is beneficial for one another to reach the aim in learning (Johnson et al., 2014; Johnson & Johnson, 2018). This happens when the students have a positive attitude towards each other and in reaching their goals. Teachers may chunk the group work into different tasks and assign group members to finish (Gillies, 2016). The success of every student is the goal of positive interdependence (Gaikwad, 1996).

Individual Accountability

All students in groups are assigned tasks to reach their mutual goals. Individual accountability is done as each student is being assessed of his or her own responsibility (Johnson et al., 2014; Johnson & Johnson, 2018). Furthermore, Gillies (2016) stated that when students realize they are connected to each other, they recognize their own personal responsibilities more (Gillies, 2016). This is done to ensure that everybody is performing their task well. Tamah (2014) has mentioned that every student should be assigned equally balanced tasks to ensure individual accountability to take place.

Group Processing

This skill is mainly about analyzing and evaluating the performance of members in the groups to develop their improvement in learning. Group investigations are done by their own members to maintain effectiveness and promote improvement within the group (Gillies, 2016; Green & Henrique-Green, 2008; Johnson et al., 2014; Johnson & Johnson, 2018). In group processing, pupils should master both subject content and social interaction (Gaikwad, 1996). Furthermore, students who practice group processing accomplish more than students who do not (Gillies, 2016). Therefore, it is necessary to help students evaluate their performance for their improvement.

Social Skills

Social skills are one of the criteria that cooperative learning promotes (Johnson & Johnson, 2018). Green and Henrique-Green (2008) have mentioned that learning is mostly related to social beings. Likewise, Johnson et al. (2014) have stated that this learning attribute is promoted when small groups are established to ensure social interaction among pupils. Social skills are being emphasized when role-playing and modeling cooperative activities are being demonstrated in the classroom. Moreover, a positive relationship among the pupils increases the more they practice social skills (Tran, 2013). Therefore, it is important for teachers to include these strategies in their teaching to build a good social atmosphere in the classroom.

Face-to-Face Interaction

Students are provided the opportunity to communicate with each other verbally in this attribute. They take part in conversations among their group and the rate of interaction increases as they share their thoughts. This becomes possible because they are assigned to sit close to each other in groups to access the clear visual and audio output of their peers (Gillies, 2016; Green & Henrique-Green, 2008). In face-to-face interaction, students are accountable for sharing personal perspectives, describing matters, instructing each other, and explaining how they understand things.

Cooperative Learning in Elementary Level

Elementary is the basic level of education and it is very important to use good practices of teaching and learning to be able to instill knowledge in pupils at this level of education. According to Slavin (2015), cooperative learning has been practiced from kindergarten to college in different schools. This situation is congruent to what Gaikwad (1996) stated that cooperative learning is applicable for teaching learners of different ages and is useful for various subjects. However, due to the adjustable timetable of elementary schools, cooperative learning has become suitable and convenient to be applied at that level (Slavin, 2015). This statement is equally important as Gaikwad (1996) implicitly mentioned that younger learners are more receptive to the new teaching methods, which is in contrast to the traditional ones. Therefore, it is appropriate to start practicing cooperative learning at the elementary school level.

Moreover, cooperative learning has been acknowledged to be effective in the field of culturally diverse elementary classrooms (Cousik, 2015; Green & Henrique-Green, 2008). When pupils from different cultures are placed in informal cooperative learning groups, both their academic performance and social relationship with their peers are developed (Cousik, 2015; Green & Henrique-Green, 2008). For instance, when pupils from different cultural backgrounds are put together in groups, teachers may raise questions and probe for answers about

different terms used for body temperature, multiple uses of vocabularies, and system of dress codes in different countries. The answers given will help other pupils to develop intellectually. Cooperative learning can also induce positive social interrelationship among pupils of culturally diverse backgrounds (Cousik, 2015; Green & Henrique-Green, 2008). It can be noted from the above that cooperative learning has a very important role to play in elementary schools in which pupils of different tongues and cultures come to study.

The use of cooperative learning in specific areas of subject teaching has also proved significantly effective at the elementary school level. According to Slavin, Lake, Hanley and Thurston (2014), cooperative learning has been proven to be positively useful in every science education and all other different subject areas. This is positively effective because of the development of mutual association among pupils. This finding is congruent to the positive interdependence outcome that cooperative learning impacts (Cockerill et al., 2018).

Not only does cooperative learning play an effective role in the academic fields, but it also helps in developing the decision-making skills of elementary pupils. The decision-making skill is necessary to assist pupils in adjusting to their environment, accomplishing their aims in life, and actively engaging in any given responsibility. Cooperative learning supports elementary pupils to achieve the above aims (Asha & Al Hawi, 2016).

Cooperative Learning Teaching Structures and Strategies

The teaching dynamics in cooperative learning include techniques, structures, and strategies. With a proverb saying, "practice makes perfect," these teaching dynamics can be only smoothly implemented with a sufficient amount of patient practical exercise (Kagan & Kagan, 1994). According to Johnson et al. (1994), the practical use of cooperative learning in a classroom is not as easy as it seems. Here are some selected examples of cooperative learning techniques, structures, and strategies.

Techniques. Techniques are steps designed to organize or manage the learning environment (Green & Henriquez-Green, 2008). These are used to ensure an organized learning environment. Techniques are mostly used on a daily basis as needed.

Verbal routines. Verbal routines are the everyday use of the verbal intervention. Teachers use it to ensure positive relationships among pupils. These verbal routines include questions such as, "What did you do? Who did you hurt? What are you going to do so that this does not happen again?" (Green & Henrique-Green, 2008, p. A2.26).

Effortless roll-taking. Roll taking is used by teachers in the classroom to take attendance. Teachers need to use roll-taking structures that save time and effort.

There are two ways of doing this; having a seating chart of pupils and using clotheslines to hang cards with pupils' names (Wong & Wong, 2004).

Getting attention. In order to get the attention of students, teachers can use signs or signals. For example, ringing a bell, clapping, or raising the hand are practices to give signal to call student's attention. Students should be able to recognize the sign and pay attention to what the teacher says (Sim & Ananthi, 2017).

Posted assignment. Posting an assignment is one of the techniques that teachers can use to engage pupils before class begins. As soon as pupils arrive in the classroom, the intended assignment must be posted in a visible place on the board. In this way, the noise level inside the classroom will be minimized, and students will be aware of what they are supposed to do (Wong & Wong, 2004).

Structures. A structure is a content-free, planned process designed to organize the interaction of individuals for instructional purposes (Green & Henriquez-Green, 2008). It is used as often as needed according to the lesson objectives. Moreover, it makes the learning interactive among the pupils.

Think-pair-share. This structure is done when pupils individually brainstorm about a topic or question for a few seconds. They then pair with a partner to discuss the topic for a few minutes. Finally, they share their ideas with the whole class. Think-pair-share helps students develop their engagement, thinking skills, and communication skills (Sharma & Saarsar, 2018).

Think-pair-square. This structure is done when pupils individually brainstorm about a topic or question for a few seconds. Then they pair with a partner to discuss the topic for a few minutes. Finally, they simply share the ideas in their group of four members. This structure supports students in improving their cognitive ability and collaboration skills (Yaqin, Indriwati, & Susilo, 2018).

T-chart. T-chart is in the form of the alphabet letter T. It is a structure that is used to teach social learning skills to pupils. A learning topic would be written at the top of the T-chart. On the left column of the T-chart, it will read as "looks like," and in the other column, it will read as "sounds like." Pupils give their answers about how the learning topic looks like and sounds like to learn about social skills (Sim & Ananthi, 2017).

Four corners. Four corners structure provides students with four different options of similar values. Students are to choose their favorite value and explain why they have chosen it. After that, the teacher concludes with a further explanation about the values (Kagan & Kagan, 1994).

Either/or. Two options are provided for a topic in this structure. Pupils are given time to think and choose the answer mostly related to their value. After a choice is made, pupils are asked to justify their choices based on their values. This

is one of the activities that students develop in the thinking skill of classification (ogle, Lee, & Ng, 1997).

Numbered-heads-together. This structure is very interesting. It is useful for revision and quizzes of factual lessons. In this structure, a factual question is posted. One number of a pupil is randomly selected. After that, the teacher chooses a table randomly. This can be done by throwing dice. The pupil from the selected table is then picked to give an answer (Kagan & Kagan, 1994).

Venn diagram. The Venn diagram is composed of two circles that intersect each other in the middle. This diagram compares and contrasts the similarities and differences between two topics (Jacobs, Lee, & Ng, 1997). The part where the two circles intersect is the place where similarities are placed. Differences will be put in the respective circles.

Strategies. A strategy is an organized system of instruction based upon a learning theory or how scholars think in a particular discipline. It has a research base supporting its ability to produce strategy-relevant results in students (Green & Henriquez-Green, 2008). It is used as the main teaching strategy that provides information at the same time involves interaction.

Jigsaw. Jigsaw is the cooperative learning strategy in which a topic is divided into parts and given to the learning groups. In this strategy, pupils are provided the opportunity to teach and learn from each other. The teacher's role here is to facilitate (Kagan & Kagan, 1994). There are basically three types of jigsaws: regular jigsaw, group jigsaw, and expert jigsaw. In regular jigsaw, pupils receive different kinds of materials on a topic, and they present their own materials in the group. In group jigsaw, each group receives different kinds of materials and presents a given topic to the whole class. In expert jigsaw, each member of the group is given different materials on a. topic. After that, they meet their other classmates who have received the same material. This group is their expert group. After discussing the topic in the expert group, they return to their original group and present the topic. Jigsaw strategy is much more meaningful when the group is heterogeneous to induce unity and amiability as well as develop cognitive aspects (Jacobs & Renandya, 2019).

K-W-L. This complex cooperative learning strategy was initially a strategy designed for reading by Donna M. Ogle. This serves as the chart that records the process of learning. K column stands for what pupils know, and pupils' prior knowledge about the topic is recorded. W column stands for what pupils want to know, and their curiosity about the topic is recorded. L column stands for what pupils have learned after they have received the reading material, and their knowledge about the topic is recorded in this column (Ogle, 1986). It is an effective strategy, especially in reading for passive students (Dieu, 2015).

Cooperative Learning in Synchronous Classes

Cooperative learning is applicable in physical classrooms and in synchronous learning platforms. To implement cooperative learning in synchronous online classes, teachers need to adjust cooperative learning according to the needs of the students and the contextual situation of the class (Jacobs & Ivone, 2020). In doing so, teachers may encounter challenges, to name a few: lack of good internet connection, insufficient electronic gadgets, cyberbullying, large class size, and different levels of Information and Communication Technologies in instructors and learners (Ivone et al., 2020). Teachers are advised to ask eleven questions about their teaching when considering implementing cooperative learning in synchronous classes. The eleven questions are concerned with (a) the group size; (b) grouping criteria; (c) decision on teaching collaborative skills; (d) appropriate level of tasks; (e) frequency of cooperative learning activities; (f) motivation on students to think and share equally; (g) evaluation of students; (h) choice of putting thinking skills in cooperative learning; (i) need of explanation on working as a team; (j) involvement of the gatekeepers; and (k) assistance of other teachers for using cooperative learning in distance learning.

Cooperative learning in synchronous online classes is beneficial to the students. For instance, students in synchronous online classes develop their cognitive ability, affection, and belongingness as they experience cooperative learning (Peterson, Beymer, & Putnam, 2018). Moreover, the breakout sessions in the synchronous classes promote students' creativity skills, develop collaborative skills, and promote student interaction (Sekhri & Kaur, 2021). Finally, it also aids students with their social and problem-solving skills that it is recommended to implement to promote critical thinking skills in students (Suhaimi & Yunus, 2021). Literature revealed that cooperative learning is useful and effective for students' learning even in synchronous online classes.

Methodology

The methodology of this research study was conducted in a qualitative study with case study research design. According to Merriam and Tisdell (2016), the root of qualitative research is derived from sociology and anthropology, and its nature is to find out the meaning or reason behind how and why people practice certain things in life. Moreover, it is to reveal or uncover the reasons connected to the experiences and lives of people beneath their actions in the actual world.

Research Design

This study is guided by the qualitative research design. According to Creswell and Poth (2018), case study is the "qualitative approach in which the investigator explores a real-life, contemporary bounded system or multiple bounded systems over time, through detailed, in-depth data collection involving multiple sources of information and case themes" (p.153). Yin (2016) stated that the case study

involves the action of defining the case and setting a bound system. A case may be a person, organization, program, community that many other topics could cover. The bounded system is the context within which the case has been studied. The case in this study is exploring the cooperative learning practices and the bounded system within an international faith-based elementary school virtually. It is a single case study that was conducted in one setting.

Participate Sampling

There were five elementary teachers who participated in the study. Purposive sampling was used to select the participants of this study. It is used to explore relevant information that will cover the topic of the study (Yin, 2016). The nationality of teachers was not in the purposive sampling. However, all the teachers who participated were Filipinas. They have practiced cooperative learning in their physical face-to-face classrooms for more than two years, and they are now teaching in virtual face-to-face platforms for 6 months and are chosen as participants of this study. The profile of the participants is as follow:

Table1

Participant Profile

1.	Teacher Susie	Grade 1 homeroom teacher
2.	Teacher Cecelia	Grade 2 homeroom teacher
3.	Teacher Ellis	Grade 5 homeroom teacher
4.	Teacher Jessa	Grade 5 Math teacher
5.	Teacher Bliss	Grade 6 Math teacher (High school and Elementary teacher)

Research Setting

This study is conducted at an international faith-based Adventist elementary school. The institution is located in the Philippines, and the classes in all grade levels are offered virtually via Zoom to comply with the regulations of the government. The communication between the researcher and participants was conducted online. Both interviews and observation sessions were carried out virtually.

Data Collection

Data collection of this study was conducted through Zoom. As Merriam and Tisdell (2016) mentioned, the researcher will be the primary instrument of the study to collect data, interpret the data, and conduct the data analysis, whereas

there are interviews and observations used for data collection. The interview sessions were conducted via Zoom meetings and recorded with the consent of the participants. The interview questions were semi-structured as Flick (2018) mentioned that semi-structured interviews invite the participant's opinions to be more broadly revealed than in questionnaires or structured ones. Interview questions were formulated based on the main research questions. The interview questions include concerns on (a) possible cooperative learning strategies in the synchronous online classroom; (b) procedures on how cooperative learning strategies are conducted; (c) preparation on the part of the teacher; (d) barriers encountered by teachers; and (e) necessary support from the administrators. The interview questions were sent to the Ethical Review Board of the researcher's institution for review and acceptance. Each interview session took place for about forty to forty-five minutes and each participant was interviewed once.

Also, observations were used to capture the effective practice of something factual. Similar to interviews, observations are one of the main data sources of qualitative research. Unlike interviews, observation provides the direct experience to the researcher about the case under study (Merriam & Tisdell, 2016). It also includes human sensory abilities such as "seeing, hearing, feeling, and smelling" (Flick, 2018, p. 391). Observation sessions were scheduled after the interview sessions ended for the participants. Observation sessions were conducted via Zoom and three sessions of teaching from each participant were observed. The necessary observation protocol checklist was followed, such as (a) physical setting, (b) participants, (c) activities and interactions, (d) unexpected actions, and (e) researcher's reflections (Merriam & Tisdell, 2016). The researcher, in this case, was a complete observer as it was an online observation, with the microphone muted. However, the researcher was asked by the teacher participants to occasionally assist some students who need help.

Data Analysis

This study employed the quality criteria of (a) credibility, (b) dependability, (c) transferability, and (d) confirmability proposed by Lincoln and Guba (1985). Credibility was ensured through triangulation (data sources, theories, and researchers), member checking, and iterative interviewing, and pilot study. Dependability was established by providing a detailed description of the phenomenon. Confirmability was ensured through triangulation, member checking, and audit trail. Transferability is made possible through the detailed description of the context and participant's life as an educational leader.

A large amount of raw data is collected during qualitative study. Analyzing data is to extract meaning out of the data collected (Merriam & Tisdell, 2016). It is also the organization, coding, representing, and interpretation of the data that was collected (Creswell & Poth, 2018). The data analysis for qualitative research was guided by the framework of consolidating, reducing, and interpreting (Merriam &

Tisdell, 2016). Data was analyzed and interpreted using the framework of Stake's (1995) categorical aggregation and direct interpretation for case study research design. Patterns, frequencies, and relevance were given importance and care in handling the data. Also, the data went through the step-by-step procedure of coding, categorizing, and thematizing. Coding was followed by forming categories that were grouped into themes to answer the research questions. Moreover, a triangulation matrix was created to collect the data from different points of view to ensure trustworthiness (Merriam & Tisdell, 2016).

Table 2

Triangulation Matrix

No.	Research questions	Interview	Observations
1.	What are the possible cooperative learning strategies practiced in virtual classrooms?	√	√
2.	How are cooperative learning strategies, structures, and techniques conducted in virtual settings?	√	√
3.	How can the teachers be prepared to conduct cooperative learning in a virtual setting?	√	
4.	What are the barriers that teachers encounter practicing cooperative learning virtually?	√	√
5.	How can the administrators support the implementation of cooperative learning?	√	

Trustworthiness

Trustworthiness in qualitative research is regarded as the reliability of the study. The components of trustworthiness are credibility, dependability, confirmability, and transferability (Lincoln & Guba, 1985). Credibility is achieved as the data of the study is handled properly (Yin, 2016). Member checking and triangulation are two of the techniques that are used to ensure a credible qualitative study (Creswell, 2016). Dependability of the study is achieved when the research procedures and process are presented with clarity (Lincoln & Guba, 1985). Confirmability is achieved with the help of an audit trail that records detailed information about the process and findings of the study (Lincoln & Guba, 1985). Finally, transferability supports the trustworthiness of the study by presenting the

findings in thick description, and they can be transferred to other contexts (Merriam, 2009).

Researcher's Reflexity

The researcher's reflexivity is an important aspect in qualitative research to be knowledgeable of the researcher's standpoint and values. The researcher was introduced to cooperative learning during her first year of master of arts in education. She was trained to use cooperative learning and took courses in which cooperative learning was practiced. She also got acquainted with the participants of the study during her teaching practicum to fulfill her requirements. As the impact of past experiences in the life of the researcher, this study was conducted.

Ethical Considerations

Permission from the Ethical Review Board of my institution was obtained for this study. The guidelines of ERB are followed to ensure ethical research. Moreover, approval from the administrative committee was obtained since the study was conducted within the institution's elementary school. Informed consent to voluntarily participate in the study was sent to individual participants. Participants were given the chance to withdraw anytime from the study. Consent to record interview sessions was sought and permission for three observation sessions was achieved. To ensure the confidentiality of data, no one had access to any data collected except my professor who was guiding this study. To maintain the privacy of the participants (Merriam & Tisdell, 2016), pseudonyms were used. The results were shared with the participants and the school where this study was conducted in. Permission for publication was also sought and achieved.

Findings

The results of this study are represented as themes to answer the guiding research questions. Each theme has respective categories that represent the excerpts of the themes. There are four major themes which have emerged from this study such as (a) teaching practices, (b) attributes of teachers to implement cooperative learning in virtual settings, (c) challenges and advantages of cooperative learning in virtual settings, and (d) administrative support.

Virtual Cooperative Learning Practices

Possible cooperative learning practices. Out of the many cooperative learning practices, the possible learning techniques, structures, and strategies for Zoom classes are T-chart, voting, random call, grouping, round-robin, think-share, three minutes pause, Venn diagram, random call, grouping, either/or, four corners, ranking, group jigsaw, open the floor, expert jigsaw, and KWL. Regarding the think-pair-share structure, the pairing part is missing: talking to one of their classmates before sharing. Although the pairing part is missing, sharing should be

emphasized (Jacobs & Ivone, 2020). Teachers have also used these in their classes and confirmed that these practices are useful and meaningful for their students.

Revised cooperative learning practices. According to all five participants, the cooperative learning teaching practices are revised according to the modality of the situation at hand. Moreover, the procedures of cooperative learning practices have become different from how they were conducted in the physical face-to-face classrooms. However, teachers have done their best to incorporate cooperative learning in the Zoom classes with the revised versions. For example, in T-chart, students can write or annotate in Zoom meetings for each column in the T-chart instead of the teacher writing it alone. Next, the round-robin in Zoom becomes a little more complex than usual because students have their own numbers when they respond in round-robin manner. Also, the structure of think-pair-share is not complete anymore when the pairing part is omitted due to the Zoom class situation. Voting is easy and even more interesting when students use their thumbs-up stickers. For the grouping process, teachers have to manually group the students according to their respective groups and the teacher could visit each room and monitor the activities. In this case, teachers use the button of breakout sessions (Spathis & Dey, 2020) and group the students for cooperative learning activities. Teaching techniques such as posted assignments, group roles, and the use of music while students are working are apparent during the observation sessions. Teachers have made use of every possible opportunity to make the learning environment lively and welcome. Both students and teachers are adapting the synchronous learning (Jacobs & Ivone, 2020). Therefore, according to the teacher participants, no fixed or perfect procedure could be expected during these times.

Attributes of Teachers for Virtual Cooperative Learning Implementation

As the lesson delivery mode has been shifted into online learning, the work of teachers has also changed. It is the time of adjustment for both students and teachers. Teachers are to guide students with patience and understanding (Jacobs & Ivone, 2020). Teachers' roles in online learning are planning for comprehensible lessons, modeling as a good influencer, coaching for motivating students, facilitating or guiding students for direction, and communicating for effective

feedback (Sharma & Bumb, 2021). According to teacher participants, the skills that teachers need to possess are mentioned in the following sections. According to teacher Susie, her experience in online teaching has been a "360-degree" change.

Teachers as learners. Teachers have become a guide on the side instead of a sage on the stage in the 21st century (Trilling & Fadel, 2009). Teachers need to become patient guides in the time of online learning. Moreover, they need to consider that they are lifelong learners who take lessons from past mistakes (Jacobs & Ivone, 2020). Teacher Jessa said that "students have become the guinea pigs" to experiment on them with the teaching strategies and learn from the process.

Teacher Susie also said that she would never stop using the cooperative learning practices and continue to explore more in the future. Teachers are advised to be explorers in using cooperative learning in distance learning. They should think of themselves as learners and incorporate cooperative learning with patience (Jacobs & Ivone, 2020). It is apparent to learn that teachers are positive in what they are doing as they use cooperative learning strategies. In fact, all the teacher participants have stated that they will use cooperative learning more in the future with revised versions to meet the needs of the students. Teacher Cecelia also added on the improvement of a teacher as a learner by joining in webinars, study groups in which teachers assemble to share their experiences with the professional mentors. According to Green and Henrique-Green (2008), "A study group is a team of three to six participants who meet together to implement newly learned teaching practices, try innovative problem solving, and to improve achievement in classrooms" (p. 6.5). Moreover, teacher Bliss mentioned a similar thing with an additional thought on self-upgrade by exploring technology tools. This led to another category that emerged from the theme.

Information and communication technology skills. The work of a teacher has become a guide beside the students to facilitate their learning. Students become the clients that are in demand of 21st-century learning experiences. Compared to the technology-native students, teachers have lower knowledge and skills about technology in the 21st century (Trilling & Fadel, 2009). This was also mentioned by teacher Bliss that the generation Z students in her classroom are more natural at exploring the technology, and they are better than the teachers in using technology tools. She further stated that teachers must maintain authority, and to do that, teachers must upgrade their information and communication technology skills.

Creativity. The next category is the skills of creativity. All the teacher participants mentioned this skill as the common skill necessary to be present in every teacher who uses cooperative learning. Creativity is "trying new approaches to get things done equals" (P21, n.d, p. 6). It is the same as doing another version of a strategy to reach the same goals. Creativity was being incorporated in education around the 1980s, and it is one of the prominent skills in the P21 framework (Guo & Woulfin, 2016). It is also categorized as one of the personal skills that are required for high achievement in the 21st-century workplace (Luna Scott, 2015). It is also important to note that creativity is born out of imagination, the skill that every human being possesses (Trilling & Fadel, 2009).

Challenges of Implementing Cooperative Learning in Virtual Settings

There are challenges in implementing cooperative learning and advantages of using cooperative learning in online synchronous learning. The challenges are time constraints, poor internet connection, and difficulty monitoring student groups. The

advantages are that cooperative learning enhances students' engagement in the Zoom meetings, and it helps create a student-centered learning environment.

Time constraints. The basic Zoom meeting allows a meeting to occur for 40 minutes only. Teachers have to finish their lessons within the allotted time for one Zoom session. Moreover, only four hours of classes are held every school day; two classes take place in the morning and two classes in the afternoon. Also, time is very limited to finish cooperative learning strategies within one setting. Teacher Ellis also stated that "time has become our enemy" in conducting cooperative learning in Zoom meetings. It is true that using cooperative learning uses too much time, yet it is worth it to help students develop their collaborative skills and grow bonds with their classmates (Jacobs & Ivone, 2020).

Poor internet connection. Internet connection is a must when having synchronous meetings. Attending classes would not be possible without it. There were instances when students missed instructions due to internet interruptions and teachers encountered a difficult time putting those students in groups again once they reentered the zoom class. There may also be communication breakdowns when the internet connection makes the sound choppy. Sometimes, the teacher herself was kicked out from the Zoom class. The challenge which is at the most significant level in online assisted learning is internet connectivity (Sharma & Bumb, 2021). Access to both laptops and a good internet connection influences synchronous learning lessons (Spathis & Dey, 2020).

Group monitoring. In face-to-face physical classrooms, it was easy for teachers to monitor what each cooperative learning group was doing. In Zoom meetings, it is still possible for a teacher to visit from room to room. However, teachers cannot see all the groups together at once, and it is not easy to monitor what is happening in all the zoom breakout rooms concurrently.

Off cameras. Another challenge is when students do not turn on their cameras in Zoom classes. Teachers cannot monitor whether students are paying attention or not, and it is difficult for teachers to get those students' attention. If students do not turn on their cameras, they will miss out on one of the cooperative learning attributes, "face-to-face interaction" (Green & Henrique-Green, 2008; Gaikwad, 1996; Johnson et al., 2014; Sharan, 2015; Johnson & Johnson, 2018). Therefore, students must turn on their cameras during Zoom classes. Research has mentioned that face-to-face interaction produces a positive environment. Furthermore, students learn more efficiently in the positive learning setting (Tran, 2013).

Responses from students. The final challenge is getting responses from students. In the "pairing" part in the cooperative learning structure, "think-pair-share," students are no longer given the opportunity to turn to their neighbors. If students speak to each other, it will take more time. Moreover, some students do not know how to respond because they were kicked out from the Zoom meeting due to internet connections. This is also one of the challenges in implementing

cooperative learning in synchronous online classes (Ivone et al., 2020). Therefore, the challenge of poor internet connection affects the responses from students.

Administrative Support

The last theme is the support that teachers have received and would like to receive from the administrators. As leaders of schools, principals ought to play multiple tasks such as motivating the teachers and meeting their needs to help students in their learning (Komalasari, Arafat, & Mulyadi, 2020). The support facilitated recently bt the administration is the study group in which teachers regulary meet and consult the experts of cooperative learning strategies and practices in virtual classes. "Study groups address more than professional needs; they fulfill personal and social ones as well" (Green & Henrique-Green, 2008, p.6.9). The other categories such as visiting virtual classrooms, having teacher assistants, and lending electronic gadgets are necessary for future support.

Study group. Four out of the five teacher participants join the study group with the professionals in cooperative learning once a week. In those meetings, the principal was always present, although the time was already late in the evening. Teachers are grateful for his presence in the study group that the principal is aware of what teachers are bringing into the classrooms. Study group helps in strengthening the sense of a community within a school, which is the great essence of its purpose (Green & Henrique-Green, 2008).

Visitation to classrooms. Another administrative support could be to pay a visit occasionally to each virtual class, just like in the physical face-to-face classes in the past. In this way, teacher Susie said that she could include effective strategies and remove unnecessary ones. One of the factors that a leader could help develop the quality of learning is giving guidance (Komalasari et al., 2020).

Teacher assistant. Good support from the principal could be to provide a teacher assistant for the subject teachers to facilitate group activities effectively for cooperative learning. This is very crucial because subject teachers could focus on teaching as another teacher monitors groups. Having support from a teacher assistant during Zoom meetings is necessary and facilitates student engagement, including checking messages in chat boxes (Castelli & Sarvary, 2021; Kaden, 2020).

Electronic gadgets. The final support could be to provide quality laptops necessary for teachers to use while they teach online. According to teacher Bliss, the laptops that teachers are using are second-hand, and some are not functioning well anymore. To effectively use synchronous Zoom meetings, it is necessary to have quality laptops, and the school should provide technology resources, especially laptops, for teachers to borrow and use. It is very helpful for teachers when they are provided with laptops from their schools (Khanna & Kareem, 2021). Moreover, some schools are lending electronic gadgets to teachers and students, and it is being supportive for both teachers and students (Ivone et al., 2020). And it

would also be helpful in schools to loan laptops that assist teachers to teach more efficiently.

Conclusions

The findings have revealed that cooperative learning practices are still possible in online synchronous meetings, and step-by-step procedures are included. The attributes that a teacher needs to implement cooperative learning in online platforms are also explained, and the challenges are also enclosed. Within the time limit for each class session in Zoom, teachers are doing their best to incorporate cooperative learning practices to make their class lively and enjoyable. Although there are many challenges with the technological issues, the elementary teachers hope to implement more cooperative learning practices in the future with the support of the study group, webinars for online teaching, experimenting attitude, and creativity for online classes. The administration could also assist in using cooperative learning based on the results.

Recommendations

There are two recommendations for further research and two for the administrators. Recommendations for further research are to conduct studies on the readiness of the elementary teachers for online teaching and the experiences of elementary students of cooperative learning in virtual settings. Recommendations for the administrators are to provide electronic gadgets for teachers to loan and use for teaching purposes, provide an assistant for teachers to manage the class effectively in grouping, upgrade the Zoom platform to extend the class duration, and pay a regular visit to each Zoom classroom to motivate the teachers to use cooperative learning.

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