Mixed Methods Research on the Efficacy of Collaborative Learning Technique

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ABSTRACT

The study sought to assess the effectiveness of collaborative learning methods among 10th-grade junior high school students. The quantitative technique employed a pretest-post test questionnaire, which yielded good post test scores, thus confirming the success of the intervention. The qualitative investigation of 10 participants unveiled their encounters, difficulties, strategies for dealing with such difficulties, and suggestions. Ten structured themes were identified, including levels of participation, involvement in fascinating activities, challenges in socializing with classmates, high levels of engagement, taking initiative, and group projects. The study highlighted the efficacy of collaborative learning in assessing leadership and socializing abilities, enhancing communication skills, increasing self-assurance and morale, cultivating stronger connections, and promoting chances for personal development. Nevertheless, the study highlighted the obstacles, including recalcitrant team members, communication difficulties, and time limitations. The students' experiences resulted in the endorsement of collaborative learning methods, such as role play and jigsaw, to encourage active engagement. These strategies facilitated students in developing a competitive edge, enhancing their learning abilities, retaining material more effectively, promoting knowledge sharing, and refining their communication skills. The study demonstrated the significance of collaborative learning in augmenting student performance across different topics and grade levels.

KEYWORDS: *collaborative learning techniques, experiences, challenges, coping mechanism, recommendations, explanatory-sequential mixed methods design*

INTRODUCTION

Collaborative learning is gaining popularity in schools as a method to enhance students' involvement, analytical thinking, and ability to solve problems. Furthermore, collaborative activities foster active learning by involving students in the learning process, rather than merely delivering knowledge to them passively. Bower and Richards (2006) said that collaborative learning has several benefits, such as enhancing communication proficiency, fostering empathy, and developing social aptitude. While collaborative learning presents several benefits to students, it also entails certain difficulties. Several research studies have examined the difficulties that students face when engaging in collaborative activities.

In global setting, College of Humanities at the École Polytechnique Fédérale de Lausanne in Switzerland, Dillenbourg (2009) highlighted the importance of effective communication and collaboration skills in successful learning outcomes. This means that students who establish understanding or rapport within their group can perform the classroom activities effectively. Rapport within the group is essential for creating a sense of trust, shared goals, and mutual respect, which in turn, enhances collaborative problem-solving and knowledge construction (Webb, 2009). However, in Dillenbourg's study, he also identified the number of challenges associated with collaborative learning, including differences in learning styles and lack of participation.

Furthermore, a study carried out in the College of Education at the University of the Philippines Diliman revealed that engaging in collaborative activities resulted in enhanced learning outcomes and heightened student engagement. Furthermore, it was underscored that engaging in collaborative learning activities greatly enhances students' ability to work together in groups, hence enhancing their cognitive skills and creativity. Nevertheless, the study emphasized obstacles such as disparities in involvement and disagreements among members of the group (Tecson, 2016).

At Assumption College of Nabunturan, the researcher who dedicated several years to incorporating collaborative learning strategies into classroom instruction noted that certain individuals derived pleasure from working in groups and acquired knowledge through this method. Nevertheless, there were pupils who exhibited a lack of engagement, motivation, and responsibility. Several individuals exhibited reluctance to contribute their ideas throughout the group discussion, while others remained inactive. The teacher reprimanded these kids and urged them to engage, however they remained unwilling to cooperate. If students lack motivation and fail to actively participate, they may miss important learning opportunities that result from interacting with their peers (Luo, 2019). Collaborative learning aims to promote peer learning and the exchange of information. However, if students do not actively engage, they may limit their own educational capabilities. Unmotivated and disengaged students might negatively impact the motivation of their peers. When certain members of a group do not actively engage in the process of collaborative learning, it might demotivate other students who feel that their efforts are not appreciated or recognized (Holt et al., 2018).

This study was conducted to address the lack of thorough information on the magnitude of the problem and the effectiveness of collaborative learning techniques. The study aims to provide results on the effectiveness of collaborative learning techniques, documenting both quantitative and qualitative aspects.

Review of the Related Literature and Studies

Collaborative Learning. This educational style prioritizes collaborative learning, active dialogue, and mutual collaboration among students. It entails students collaborating in teams to accomplish tasks, solve issues, or attain a shared objective. According to Slavin (2015), collaborative learning strategies create a supportive setting where students may improve their ability to communicate and boost their self-confidence by working together in groups. Collaborative learning, involving group discussions, group tasks, role-playing, simulations, and peer teaching, is a popular educational method for promoting active engagement, analytical reasoning, problem-solving, communication, and teamwork.

First, group discussions involve small group discussions led by teachers or learners, involving both organized and unstructured discussions to reach consensus or solutions. Webb (2009) asserts that group conversations foster active learning by encouraging students to actively participate, exchange thoughts, and collaboratively build knowledge, thereby enhancing their comprehension and recall of the subject matter. In addition, Mercer and Littleton (2007) stated that group conversations help children develop perspective-taking, empathy, and cognitive horizons by exposing them to diverse opinions and viewpoints. These skills are crucial for effective communication, problem-solving, and fostering positive relationships. In addition, The National Highway Institute places emphasis on group discussions as encouraging active participation, supporting arguments and enhancing understanding. They enhance memory retrieval and attention, but participants are not guaranteed to express their viewpoints during these discussions. (Prasanna, 2022).

Second, the Jigsaw exercise, created by social psychologist Elliot Aronson in the 1970s, aims to foster intergroup connections and reduce bias among students by dividing them into small cohorts and assigning them tasks to master a subject. This approach encourages active listening, collaboration, and group activities among learners (Septiani, 2020). The acquisition of knowledge will undoubtedly lead to the fulfillment of a collective goal and the establishment of fresh connections as preparing learners to be allocated to groups is a time-consuming task.

Moreover, according to Slavin (2014), the jigsaw technique requires extensive preparation time for students and teachers, potentially reducing topic learning time and posing logistical challenges. It promotes teamwork and cooperation among diverse individuals, despite the importance of a prominent position in an organization. This approach ensures sufficient information acquisition. Students' success relies on their classmates' knowledge acquisition, fostering cooperation and engagement. This collaborative approach boosts academic performance and active participation. Collaborative endeavors involve allocating projects, including academic, oral presentations, and artistic activities. Collaborative projects provide learners the chance to cultivate abilities in cooperation, managing one's time, and problem-solving (Baker & Lundquist, 2017). Two persons may hold divergent views of the essential requirements for a certain task.

Third, the presence of many viewpoints and individual traits creates a lively and stimulating work environment that encourages the emergence of novel concepts and innovative findings (Verto Cloud, 2022). Collaborative work, under teacher facilitation, enhances problem-solving abilities and job completion efficiency by fostering the cultivation of innovative ideas and views among individuals with contrasting skill sets. Furthermore, Baker and Lundquist (2017) argue that group projects and peer teaching are methods of active learning that involve students working together, discussing, and applying knowledge in real-world situations. These methods enhance comprehension, analytical thinking, and long-term memory of course content. Topping (2005) asserts that peer teaching facilitates active participation and engagement among pupils. Peer teaching allows students to manage their learning, fosters accountability, and enhances self-confidence. It fosters a nurturing classroom environment, teaches essential leadership and communication skills, and showcases students' understanding of the subject matter. Furthermore, research has demonstrated that peer teaching has a beneficial effect on pupils' ability to communicate, acquire knowledge, and develop self-assurance. Peer teaching facilitates cooperative learning and enhances the cultivation of leadership abilities (Chen & Chen, 2015).

Learners may also experience heightened motivation due to being instructed by an individual who has comprehended the course and exhibits enthusiasm for the subject matter. Boud et al. (2014) found that when students participate in peer teaching, they must effectively structure and express their knowledge. Engaging in explaining and educating others helps solidify comprehension and detect knowledge deficiencies.

Lastly, interactive activities like role-playing and simulations foster empathy, critical thinking, and creativity in learners. Role-playing and simulations provide students with intentional opportunities to learn and enhance their talents (University of Miami, 2020). Role play or simulations can enhance student engagement and knowledge retention by authentically communicating key concepts and illustrating complex processes through imaginative implementation. Role play simulations, as described by de Freitas and Oliver (2006), entail players assuming specified roles and engaging in collaborative and experiential learning through the enactment of actual or imaginary events.

During a role play simulation, participants assume the identities of various characters or interests and engage with others in a controlled scenario. Simulations like these can be carried out in several educational environments, including classrooms, classes, or professional growth seminars. Collaborative learning is a highly successful educational method that facilitates active learning, cultivates social and communication aptitude, improves problem-solving and critical thinking abilities, promotes peer teaching and learning, and nurtures a feeling of community inside the classroom. Nevertheless, Kirschner, et al. (2006) contended that although collaborative learning can yield positive results, it is frequently excessively employed and may not be suitable for all categories of learning assignments. It is advised that teachers thoroughly contemplate the timing and manner in which they employ collaborative learning, and that they offer explicit guidance and organization to facilitate productive teamwork among students.

Experiences in collaborative activities. Collaborative activities offer students the chance to actively participate in the learning process and collaborate with their classmates to achieve a shared objective. This fosters more motivation and interest in the subject at hand. A study conducted by Drijvers et al. (2018) revealed that engaging in collaborative activities in instruction boost student enthusiasm and engagement, enhancing problem-solving motivation. These activities allow students to assume leadership roles, assign responsibilities, and work cohesively towards a common goal. Fuchs (2019) proposes that implementing collaborative problem-solving treatments holds great potential in fostering both social and academic achievements among students with varying learning requirements.

According to Drijvers et al. (2018), when students work together in pairs or small groups on open-ended problem-solving activities using a collaborative method, it enhances their engagement with the activity and their drive to solve the challenges. A research conducted in the Journal of Business and Psychology (2016) examined the impact of individual variations in personality factors on team conflict. The study revealed that teams including individuals with a high level of agreeableness experience less conflict, whereas teams consisting of individuals with a low level of this attribute encounter heightened conflict. Furthermore, collaborative activities may provide difficulties for certain students as a result of clashing personalities, communication obstacles, or insufficient engagement from certain group members. In addition, a study conducted by Roessingh et al. (2016) revealed that certain students may encounter difficulties due to communication impediments, such as disparities in language, which might impede the ability to collaborate effectively. Students may encounter difficulties due to a lack of explicitness in group responsibilities or aims, resulting in bewilderment and a dearth of guidance in cooperative tasks (Sleegers & Sligte, 2015). Notwithstanding these obstacles, cooperative endeavors might nonetheless be exceedingly advantageous for pupils' acquisition of knowledge and growth. Collaborative learning facilitates the acquisition of empathy and cultural competency by enabling students to gain insights and knowledge from one other's diverse viewpoints and experiences (Kirschner et al., 2018).

Challenges in collaborative activities. Collaborative learning is a wonderful instructional technique, but it is crucial to acknowledge the various problems that students may encounter. Teaching effective collaboration in the classroom may be challenging. Collaborative endeavors have a crucial role in enhancing productivity. Collaboration among students allows them to leverage one other's strengths and weaknesses to their advantage (The ECM Consultant, 2022). When students fail to collaborate, it may have a negative influence on learning, leading to reduced morale and more conflict.

Loafing is an issue that can arise in collaborative learning, where a student puts in less effort since they know they will be evaluated as part of a group. Social loafing, as defined by Lount Jr. (2005), is the inclination of individuals to expend diminished effort or contribute less when working in a group as opposed to working solo. Social loafing can be caused by a lack of motivation, the belief that one's thoughts and efforts would go unnoticed or unappreciated, and a reduced feeling of duty within a group setting. According to Paulus and Dzindolet (2007), social loafing decreases the overall effort exerted by the group and restricts the diversity of ideas produced. When group members exhibit social loafing, it hampers the creativity of the group and restricts the diversity of ideas created.

Another issue that might arise in collaborative efforts is when someone tries to assert authority over the group and dictate what everyone should do. One student may possess very high standards or a profound enthusiasm in a project, leading them to exclude their group members. Groups with a clear dominance hierarchy often exhibits less equitable participation and lower satisfaction among members (Anderson & Kildurff, 2009).

Also, miscommunication is a significant challenge in collaborative efforts. This situation may arise when team members fail to communicate effectively or when channels of communication are blocked (The ECM Consultant, 2020). If the group members are uncertain about the tasks they need to carry out, they could struggle to collaborate effectively. Moreover, disagreements arise due to divergent perspectives, clashes in personalities, and misinterpretations (Johnson & Johnson, 2018). These conflicts might potentially hinder the group's productivity and cohesion. When comprehension occurs, it is crucial to address it in a constructive and courteous manner. Identifying the misunderstanding, identifying its origin, and working together to resolve the matter will help prevent future misunderstandings (Kim & Kwon, 2017).

Coping mechanisms in collaborative activities. Choy and Oo (2016) stated how learners effectively deal with obstacles by employing several strategies, such as actively seeking solutions and information, engaging in collaborative work, distributing duties, and obtaining encouragement from their peers.

According to Johnson & Johnson (2015), students may enhance their productivity and performance as a team by resolving disagreements, practicing good communication, and utilizing time management skills. These strategies lead to improved outcomes. Moreover, effective communication is essential in all aspects of life, yet it is particularly crucial in joint endeavors. It facilitates the comprehension of the objectives, requirements, and tasks carried out collectively by every member of a group. This can help to eradicate misconceptions and ensure that everyone is striving towards the same goal (Barkley, et al., 2014). In addition, efficient conflict resolution strategies, however, can help mitigate the adverse consequences of conflict and foster positive results. Group conflict may be effectively managed via the implementation of conflict resolution strategies, such as fostering mutual understanding, engaging in compromise, and seeking assistance from a neutral third party (Johnson & Johnson, 2005). Utilizing conflict resolution methods can enhance individuals' emotional intelligence and interpersonal skills, enabling them to effectively employ these talents in various domains of both their private and professional lives (Kern & Metzger, 2014).

Self-reflection can also aid students in acknowledging and valuing their own contributions within the group, as well as the endeavors of their peers (Kern & Metzger, 2014). A further investigation conducted by Fahring et al. (2017) analyzed the utilization of reflecting on oneself as a coping mechanism for students facing challenges in collaborative learning.

Lastly, The efficacy of collaborative actions is heavily influenced by motivation. Students that are motivated are more inclined to engage actively and cooperate in collaborative tasks (Hattie & Timperley, 2007). They are more likely to exert effort and actively engage in the

work, leading to a superior outcome. It cultivates a cooperative environment where individuals collaborate to accomplish a shared goal. It fosters a collective obligation by acknowledging and valuing the contributions of each person.

Importance of collaborative learning techniques. Collaboration tactics are crucial for fostering diverse perspectives, improved communication, enhanced creativity, active participation, and knowledge acquisition. By using collaborative methods, educators may cultivate teamwork and cooperation in the classroom or workplace, leading to enhanced outcomes and higher levels of satisfaction amongst group members (Slavin, 2015). Moreover, Collaboration techniques promote active participation among group members, leading to increased commitment and work quality. This can improve learning outcomes.

A study by Hennigsen et al. (2017) found that active participation in brainstorming sessions leads to more creative and innovative ideas, indicating that collaborative activities enhance motivation and engagement. Also, Huang et al. (2019) emphasized that collaborative learning experiences can enhance communication skills in students, including active listening, constructive comments, and maintaining politeness. These activities promote shared discourse and involvement, leading to improved communication abilities. Lastly, collaborative learning mirrors real-world collaborative environment, preparing students future careers where teamwork and collaboration are essential Barkley, et al., 2014). Engaging in collaborative activities exposes students to diverse viewpoints, fostering understanding of diversity's importance in our connected society.

Statement of the Problem

As this study aimed to determine the efficacy of collaborative learning techniques based on the results of the test, the pretest-post test assessment approach was conducted. It sought the answers to the following specific quantitative questions:

1. What is the pretest result of the students?
2. What is the post test result of the students?
3. Is there a significant difference of the pretest and post test results of the students**?**

Hypothesis

The null hypothesis was formulated and tested at 0.05 level of significance.

Ho1: There is no significant difference of the pretest and post test results of the students.

Research Questions

As the study aimed to explore the experiences of the junior high school students in participating collaborative activities. Specifically, it sought to address the following qualitative research questions:

1. What are the experiences of the student participants in participating collaborative activities in class?
2. What are the challenges the participants faced in participating collaborative activities?
3. What are coping mechanisms used by participants in dealing with the challenges in participating in collaborative activities?
4. What are the participants' recommendations for students to maximize participation in collaborative activities?

Scope and Delimitations of the Study

The research was carried out at the Basic Education Department of Assumption College of Nabunturan in the academic year 2023 - 2024. The study encompassed and emphasized the feedback of the 44 Grade 10 Junior High School students about the effectiveness of collaborative learning methods.This study focused exclusively on the results of the pretest-post test assessment of the participants. Additionally, it examined the responses gathered from research participants during in-depth interviews, which explored their experiences, challenges, coping mechanisms, and recommendations for promoting students' active participation.

METHODS

This study utilized an explanatory-sequential design to assess the effectiveness of collaborative learning strategies in a comprehensive manner, aiming to reveal both quantitative and qualitative results. The initial quantitative step involved conducting pretest-post test assessments to evaluate the impact of collaborative learning interventions on student achievement and cognitive development (Creswell & Creswell, 2017). After completing the quantitative phase, the research will proceed to a qualitative phase. This phase involved conducting in-depth interviews to explore the experiences, problems, coping strategies, and suggestions related to collaborative learning, using the social constructivist viewpoints.

The sequential nature of this approach ensured a comprehensive and detailed understanding. It emphasized that the qualitative findings built upon and explained the quantitative outputs, leading to a holistic view of the effectiveness of collaborative learning practices in educational settings.

DISCUSSIONS AND CONCLUSIONS

Quantitative

Based on the pretest data, it is evident that the pupils did not achieve the anticipated level of proficiency. Laal and Ghodsi (2012) argue that not using collaborative learning strategies in the classroom is a wasted chance to improve student performance and achievement. Without these invaluable experiences, students may fail to cultivate a more profound comprehension, heightened drive, and crucial scaffolding assistance that collaborative work offers. Following the intervention, the post-test was administered to an equivalent number of students. The mean score exhibited a rise, signifying a notable enhancement in performance. The class proficiency indicated that the

pupils have reached a suitable level of competence, which makes the intervention successful. Henningsen et al. (2017) said that engaging in Collaboration activities promote creativity, leading to more efficient and successful solutions, thereby positively impacting productivity. Furthermore, Fuchs (2019) proposed that implementing collaborative problem-solving treatments might be a very effective strategy for enhancing both the social and academic achievements of children with varying learning requirements.

A paired t-test was performed to ascertain the statistical importance of the improvement, revealing a notable disparity between the pretest and post test results. This indicates that the observed rise in post-test scores is not a random occurrence, but rather a direct outcome of the intervention.

Qualitative

Level of Engagement during Collaborative Activities. The study revealed moderate to high participation in cooperative tasks, leadership roles, and socializing, but faced discouragement and moderate engagement levels. According to Drijvers et al. (2018), when students work together in smaller groups or pairs on problem-solving activities that have several possible solutions, it enhances their involvement in the process and their drive to solve the difficulties. Furthermore, Buod et al. (2014) emphasized that collaborative learning methods offer students the chance to cultivate leadership abilities, including delegation, decision-making, and dispute resolution.

Regarding members who participate in loafing, Paulus and Dzindolet (2007) found that social loafing decreases the overall effort exerted by the group and restricts the diversity of ideas created. Social loafing by group members hampers collective innovation and restricts the diversity of ideas created. This might result in emotions of exasperation and animosity among members of the group and perhaps undermine the caliber of the collaborative effort.

Cooperative Learning Techniques Teachers Usually Used. The research participants said that their teacher typically employed collaborative learning approaches such as role play, jigsaw, and group projects. Role-playing and simulations provide students with the opportunity to intentionally learn and enhance their talents (University of Miami, 2020). In essence, role play and simulation foster a deeper understanding of complex processes or concepts by vividly illustrating them through imaginative implementation.

In contrast, the Jigsaw approach fosters active listening, collaboration, and engagement in group activities among learners (Septiani, 2020). Concurrently, cooperative endeavors can offer learners chances to cultivate abilities in cooperation, time management, and problem-solving. The presence of many viewpoints and individual traits creates a vibrant work environment that encourages the emergence of fresh concepts and innovative findings (Verto Cloud, 2022).

Advantages in Participating Collaborative Activities. The study showed collaborative activities enhance group interactions, deepen relationships, improve communication skills, boost self-confidence, and boost morale, motivating participants to actively participate and showcase leadership abilities. Additionally, engaging in these activities provided them with opportunities for personal growth. When students engage in collaborative work on projects and assignments, they are able to interact, share ideas, and establish bonds with others in the group (Johnson & Johnson, 2017).

Conversely, Slavin (2015) stated that collaborative learning fosters a feeling of collective accountability and reciprocal assistance among individuals within a group. Students develop interdependence, engage in collaborative efforts, and enthusiastically acknowledge each other's achievements. The feeling of belonging and receiving support from the group enhances confidence in oneself and motivation, as students perceive their efforts as valuable and appreciated.

Disadvantages while Participating in Collaborative Activities. The study found that uncooperative members, reticent contributors, defying authority, and excessive reliance on the leader contribute to conflict in joint endeavors, as well as non-participating members and non-compliance with instructions. Group disputes are a frequent obstacle encountered in collaborative endeavors, when individuals collaborate towards common objectives. These disputes emerge as a result of divergent perspectives, communication methods, objectives, or individual beliefs among individuals within a group (Johnson & Johnson, 2005). In collaborative environments such as schools, businesses, or community initiatives, differing viewpoints and methods can result in conflicts and tensions among team members.

Moreover, social loafing, according to Lount Jr. (2005), is the propensity for people to put up less effort or provide less while working in a group than when working alone. Consequently, social loafing frequently results in less individual effort within a group setting. The absence of exertion might lead to less than ideal results and decreased overall efficiency.

Difficulties During the Conduct of Collaborative Activities. The study highlighted challenges in collaborative activities, including reliance on others, uncooperative behavior, limited communication, lack of proximity, shyness, and obstacles in effectively showcasing the activity. A research conducted by Hammar (2014) emphasized the difficulty of managing group members who strongly depend on others and fail to contribute proportionately to the group's work. Certain students may experience frustration or feel overwhelmed when they have to make up for a lack of effort from their dependant classmates in completing the work. This can have an impact on the overall efficiency and results of the collaborative effort. In addition, according to Hammar (2014), inadequate communication can result in misinterpretations, perplexity, timidity, and a deterioration of cooperation. It can impede the exchange of ideas, the allocation of duties, and the general advancement of the group activity.

Common Reasons of the Difficulties Experienced in Collaborative Activities. The study revealed the challenges in collaborative activities include indolence, misinterpretation, reliance, uncooperative participants, time limitations, group reticence, lack of effective leadership, lack of camaraderie, and self-assurance.

Kagan (2009) states that unfriendly individuals might impede collaboration by actively opposing participation, failing to provide an equitable amount of effort, or disturbing the group's dynamics. Consequently, the indolence of group members can result in an inequity in exertion and output within the group, misinterpretations can occur when obstacles in communication or divergent viewpoints impede efficient cooperation, and temporal limitations can present a difficulty in collaborative learning, particularly when there are numerous tasks to be accomplished within restricted time periods.

Coping with Challenges. The study findings demonstrated that effective leadership enabled group members to overcome obstacles and collaborate effectively, while the teacher facilitated by clarifying exercises and reporting non-compliance. Group conflict may be effectively managed via the implementation of conflict resolution strategies, such as fostering mutual understanding, engaging in compromise, and seeking assistance from a neutral third party (Johnson & Johnson, 2005). In addition, the presence of social support from fellow team members has a favorable impact on the desire to participate in collaborative tasks, as demonstrated by Wang et al. (2015).

Moreover, engaging in collaborative activities offers students the chance to cultivate social aptitudes, such as effective communication, effective cooperation, and effective leadership, as well as to acquire knowledge from many viewpoints and concepts. Leadership qualities have a beneficial effect on managing the difficulties encountered in joint operations. Fuchs (2019) proposed that implementing collaborative problem-solving treatments might be a very effective strategy for enhancing both the social and academic achievements of children with varying learning requirements.

Ways Group mates Provided Help to Overcome Challenges. The research participants highlighted the importance of group motivation, collaborative efforts, task allocation, and moral support in achieving group success. They believed increased cooperation leads to smoother activities, task distribution ensures fairness, and moral support inspires active participation.The study conducted by Choy and Oo (2016) demonstrates how learners effectively handle obstacles by employing several strategies, such as actively seeking solutions and information, engaging in collaborative work, delegating duties, and obtaining encouragement from their peers. These coping methods enhance the efficacy and supportiveness of collaborative learning. Members participate in the sharing of information, posing inquiries, and trading resources to overcome personal challenges and improve their general comprehension of the educational material.

Ways in which Collaborative Learning Help in the Learning Process. The study revealed that collaborative learning activities enhance students' understanding, memory, and communication skills by promoting group interaction and sharing ideas, thereby improving their learning and retention abilities. In a study conducted by Huang et al. (2019), it was discovered that engaging in collaborative learning experiences improved students' communication abilities, including active listening, providing constructive comments, and maintaining polite communication. Collaborative activities can enhance the improvement of communication skills through shared discourse and involvement.

Recommended Collaborative Learning Strategies to Maximize Students' Participation. Research participants endorsed role play and jigsaw as effective learning methods for real-life application and brainstorming, promoting quick internalization and implementation of lessons. The Jigsaw approach fosters active listening, collaboration, and engagement in group activities among learners (Septiani, 2020). The acquisition of knowledge will undoubtedly lead to the fulfillment of a collective goal and the establishment of fresh connections. According to Gillies and Boyle (2010), the jigsaw exercise has the potential to enhance student involvement and motivation.

Furthermore, role-playing and simulations provide students with the opportunity to intentionally learn and enhance their talents (University of Miami, 2020). Utilizing role play or simulations in learning can enhance engagement and knowledge retention by promoting genuine communication of fundamental concepts, resembling real-world work situations.Within various professional contexts, it is customary for individuals to engage in collaborative teamwork in order to address intricate issues and accomplish shared goals (Kirschner, 2017). Through active engagement in collaborative learning, students acquire the essential skills required to effectively engage and contribute in similar situations.

Convergence of Data. By looking at the scores in the pretest-post test questionnaire on the three lessons of the grade 10 junior high school students, individually they have manifested the satisfactory competency level after the implementation of the collaborative learning technique. Generally speaking, the mean gained score of the student participants signifies that the intervention was effective. The research participants listed the experiences and obstacles encountered during joint activity. All of these issues were resolved or dealt with via the use of coping techniques that were learn both individually and as a group. The research participants also provided recommendations to optimize involvement in collaborative activities.

The outcome of the quantitative investigation can be substantiated by the qualitative data, or conversely. Put simply, the test results may be justified by the experiences and difficulties they encountered, in addition to their coping mechanisms throughout the intervention. The intervention's effectiveness was due to the experiences and problems mentioned, which were ultimately addressed through their coping mechanisms as they acquired knowledge through working together. The divergence or convergence of data may have been visible if the quantitative instrument is specified and categorized based on the structured themes from the qualitative approach.

IMPLICATION FOR PRACTICE
Based on the findings, the following implications for practice are offered.

On The Level of Engagement during Collaborative Activities. Understanding factors influencing student engagement is crucial for designing challenging tasks with clear goals and a sense of ownership. An inclusive classroom climate that values diverse perspectives and promotes respectful communication fosters engagement. Ongoing assessment, feedback, self-assessment, and reflection activities are essential for maintaining engagement. Professional development and training for educators on engagement strategies facilitate group work, creating engaging collaborative learning experiences that foster active participation, critical thinking, and meaningful learning outcomes.

On Difficulties during the Conduct of Collaborative Activities. The practical implications of problems in collaborative activities highlight the necessity for instructors to properly tackle issues. Offering clear and direct guidance on interaction, handling conflicts, and teamwork skills assists students in effectively dealing with challenges. Fostering a constructive and nurturing school atmosphere promotes cooperation and the act of requesting help. Task and group design can alleviate difficulties by aligning complementing abilities and establishing explicit expectations. Engaging in reflective activities enhances one's metacognitive awareness of challenges. Supportive structures, such as scaffolding, prompts, and resources, assist pupils in surmounting obstacles. Continuous evaluation and feedback provide focused instruction and conversations on efficient cooperation tactics. Professional development provides educators with techniques to anticipate and resolve challenges. By implementing these consequences, an atmosphere that promotes successful collaborative learning among students is created.

On Coping with Challenges. The practical consequences of dealing with problems in collaborative learning underscore the need of proficient communication and interpersonal abilities. Establishing a nurturing classroom atmosphere fosters a willingness to seek assistance from fellow students. Offering support and direction helps pupils in tackling challenges. Engaging in reflection and self-assessment exercises improves one's ability to cope with challenges. Encouraging an attitude of improvement and resilience fosters the perspective of perceiving problems as occasions for personal development. Continuous evaluation and feedback aid in recognizing and resolving individual and collective difficulties. By implementing these consequences, an encouraging learning atmosphere is created where students acquire the necessary abilities to effectively handle problems in collaborative learning.

On Ways in which Collaborative Learning Help in the Learning Process. The findings emphasize the advantages of collaborative learning in the educational growth of students. Collaborative learning enhances active participation and fosters a deeper comprehension by encouraging conversations and problem-solving. Exposure to varied views boosts students' critical thinking skills. Collaborative learning fosters the development of effective communication and collaboration abilities. It facilitates the growth of emotional and social abilities. Peer teaching and learning enhance comprehension and offer assistance. Collaborative learning promotes the development of a sense of ownership and accountability towards the learning process. By implementing these implications, a dynamic and inclusive learning environment is created, resulting in increased outcomes for learning as well as improvement in critical thinking, communication skills, and emotional and social growth among students.

SUGGESTIONS
Although the study only focused to the response of Grade 10 Junior High School students from the Basic Education Department of Assumption College of Nabunturan, the following recommendations for future research should be taken into account:
First, future study can be undertaken by selecting a different groups of Junior High School students from the same school. Second, a further study with a similar emphasis might be carried out in a different area to evaluate the effectiveness of collaborative learning methods.
Third, this study was conducted in a private educational institution. Additional studies might be conducted to examine the similar issue inside public schools. Lastly, the study's conclusions are analyzed via the perspectives of the chosen junior high school research participants. Another research could be conducted to find out efficacy of collaborative learning techniques among the students of Assumption College of Nabunturan.

CONCLUDING REMARKS
Collaborative learning techniques are effective methods that encourage active participation and the creation of knowledge among students. Through collaborative efforts in teams or groups, students cultivate vital proficiencies such as effective communication, cohesive cooperation, and analytical thinking. Collaborative learning is essential for instructors as it allows them to support student-centered education by serving as facilitators and guides instead of being the exclusive producers of knowledge. It improves the dynamics of the classroom, encourages peer engagement, and inspires students by allowing them to take control of their learning experience.
Effective execution of collaborative learning necessitates careful attention to many essential factors. Teachers must define explicit goals for learning and standards for collaborative activities, ensuring that they are in line with the curriculum. Optimizing the organization of groups by taking into account variables such as the number of members, their composition, and assigned tasks, is crucial for enhancing both participation and efficiency. Facilitating instructions on effective communication, attentive listening, and respectful collaboration cultivates a favorable atmosphere for learning. Utilizing technological tools and resources may facilitate collaboration, such as employing online platforms for conversations or project management. Consistent monitoring and evaluation of group development

empower educators to offer comments and tackle obstacles. Collaborative learning techniques may effectively boost student learning experiences by creating a supportive culture and highlighting the importance of collaboration.

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