Promoting Online Peer Interaction Through Think-Pair-Share Activities

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Abstract: Peer interaction is one of the most significant factors that affect a student's learning development. It is vital that students are able to receive opportunities to interact with not only their teachers but also their peers. Allowing the students to have peer interaction will help in building the foundation of their learning process. Due to the COVID-19 pandemic, students were forced to attend online classes in order to continue their studies. With this, it was evident that the peer interaction of students, especially young learners, are limited. This case study aimed to provide a strategy that would give young learners opportunities to interact with each other. The researchers proposed the Think-Pair-Share (TPS) strategy as an intervention to be implemented in online classes of young learners targeting three (3) students. This strategy was done through Zoom breakout rooms since this was the main medium that early childhood teachers use. The TPS strategy had slightly improved the students' quality and amount of peer interaction in a span of 5 weeks. Overall, the researchers noted that all three (3) students enjoyed the TPS strategy and were looking forward to activities that included the intervention. This indicates that the TPS strategy can be a viable option to improve peer interaction in children's online distance learning.

Key Words: Peer Interaction; Zoom Breakout Rooms; Think-Pair-Share; Online Distance Learning; Early Childhood Education

1. INTRODUCTION

In the midst of the COVID-19 pandemic, there has been a great impact on the traditional face-to-face learning set-up especially to the early childhood education community, where schools incorporated online learning settings for these young children. Although online learning was the educational system's answer to the pandemic, it was evident that the learning development of children may be hindered due to the lack of interaction with peers and lack of play. Children learn by using their senses and experiences to develop their skills and abilities. According to Syrjamaki, Pihlaja & Sajaniemi (2019), peer interaction and play build the foundation of full participation in the learning process. Free-flowing, child-initiated play was usually seen in peer interaction and imaginative play which can promote not only cognitive development but socio-emotional development as well which is why it was important for the children to develop relationships and learn to communicate with their peers.

Through observations, the researchers noticed the lack of peer interaction in the online classes with communication mainly between the teacher and the student. Most of the students only interacted with their peers when prompted by the teacher. This would usually happen during

attendance when the teacher shows the name tag of the students and asks "Who owns this name tag?" or "Who is still missing?". This was the only time the researchers saw students interacting or acknowledging their peers inside the online classroom.

The researchers aimed to figure out how peer interactions can be enhanced. For this end, the study develop a strategy of promoting peer interaction in online classes using TPS activities in Zoom Breakout Rooms. The researchers believed that providing opportunities for peer interaction inside an online classroom will allow the students to connect, relate, and understand what they were learning through and with their peers (Figure 1).

Think-pair-share via Zoom Breakout Rooms will be the independent variable and was applied to early childhood online classes as a strategy to enhance engagement between students online. In this study, TPS pertained to a cooperative discussion strategy that provides opportunities to all students to share their knowledge and understanding with their peers.

The study measured improvements in the amount and quality of online peer interaction. The researchers believed that providing opportunities for peer interaction inside an online classroom would provide the holistic development the researchers mention in the definition of an ideal peer interaction.
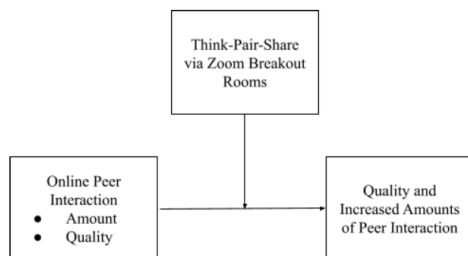

Fig 1. Conceptual Framework for promoting online peer interaction using TPS activities

1.1. Research Problem

The study aimed to promote online peer interaction through TPS activities. Specifically, it aimed to answer the following questions:

1. What is the amount and quality of peer interaction before and after implementing the TPS activities?
2. What are the effects of think-pair-share activities to online peer interaction?
3. What are the reactions of the students towards the think-pair-share activities?

1.2. Review of Related Literature

Language and communication skills are often developed through social interactions. Thus, it is significant to provide an environment that encourages development in a child's communication skills (Bruce & Hansson, 2011). Relationships and interactions, especially in early childhood, are crucial in providing children emotional support, security, practical help, cognitive challenges, moral rules and guidance (Kernan, & Singer, 2011).

As COVID-19 pandemic arose, the quality of peer interaction among students has long been questioned in online learning. Since the beginning of cyber education, many have been skeptical of its potential to devolve into an electronic form of correspondence education, lacking sufficient interaction between students (Mehall, 2020). In an online class, students and teacher interactions are very evident because the teacher reaches out to each and every student. Meanwhile, student to student interactions are rare due to the classroom setting they are put in. The social component remains absent in online teaching and makes learning more or less devoid of any social context (Hasan & Khan, 2020). Though there are a lot of advantages to online learning, it is evident that one of the most critical factors to early childhood education which is peer interaction lacks in online learning settings.

One of the possible ways to promote peer interaction is to use instructional strategies that provide opportunities to interact. This is where educators create opportunities for interaction through their choice of instructional strategies (Causton-Theoharis & Malmagren, 2005). Activities that require peer support, communicating and socializing strategies could create opportunities for children to interact in online classroom settings. Meaning activities such as TPS activities where students

discuss and answer together promotes healthy peer interaction.

Think-Pair-Share (TPS) is a cooperative discussion strategy that was first developed by Professor Frank Lyman and his colleagues at the University of Maryland in 1981 (Kaddoura, 2013). This teaching-learning strategy works in three phases: (1) Think. The teacher provokes students' thinking with a question, prompt, or observation. The students should take a few minutes just to THINK about the question; (2) Pair. Using a partner or a desk-mate, students PAIR up to talk about the answer each came up with. They compare their mental or written notes and identify the answers they think are best, most convincing, or most unique; (3) Share. After students talk in pairs for a few minutes, the teacher calls for pairs to SHARE their thinking with the rest of the class (Robertson, 2006).

The TPS steps teach students to share their thoughts and ideas to others, and also be open minded to other perspectives and learn from each other. This strategy gives an opportunity to all students to share their thoughts and have big group discussions with the class, and an opportunity for teachers to observe and assess each students' knowledge and skills. The TPS strategy reinforces students' communication skills. Each student takes his chance to speak, discuss and participate which has many positive effects on the whole group where students feel more self-confident and more active in the class. Moreover, they learn to listen to each other's point of view and to respect their peer's ideas and thoughts (Raba, 2017).

2. METHODOLOGY

This research followed a case study approach. This approach was used to extensively explore an event or phenomenon in its natural context. This was appropriate as there are limited students in the research locale, comprising of three (3) preschool students.

Two instruments were used in the study. The first instrument was a researcher made Quality of Peer Interaction Rubric (QPI Rubric). This instrument was anchored on related literature and converted into a 4-point rating scale. It consisted of 4 dimensions

namely Verbal Communication, Body Language, Cooperation, and Respect; each was evaluated from using the scale of 1 - low interactive qualities to 4 - high interactive qualities. The second instrument was the TPS Observation Tool (track sheet), where researchers observed the online class by attending and analyzing class recordings to be able to time the amount of peer interactions made by the students during class. Total minutes per session was placed.

The data gathering procedures were divided into three phases: Before, During and After intervention. Before conducting the intervention, the researchers observed the class and used the QPI Rubric. The researchers also computed the amount of interaction the students had with each other based on the class session recording using the TPS observation tool.

During the intervention, the researchers proposed a sample lesson plan that included a think-pair-share activity to enhance peer interaction inside the observed online classroom setting and a guide lesson plan that teachers could use as a template when creating a lesson plan that included the TPS strategy. The researcher applied the TPS strategy every Monday of the week and was done in an online class by incorporating interactive TPS activities via Zoom Breakout Rooms.

After each intervention, researchers observed if the students' peer interactions had been developed on the other days of the week.

The quantitative data was organized with the rubric scores of before and during the process of the research, the timed evident interactions were averaged to show the difference of peer interaction times. This was supported by qualitative data was through observations.

3. RESULTS AND DISCUSSION

Student A has shown the greatest improvement when it comes to the quality of his peer interaction (from an average of 9.75 which indicated moderate interactive quality pre-implementation to an average of 10.69 that indicated high interactive quality during and post-implementation). He also understood the instructions and activities very well

and enjoyed the zoom breakout room sessions because he was able to socialize with other students. He was the easiest to get attention from among the three cases.

Student B required more attention and instruction as she had a hard time focusing on what needs to be done. Student B's special learning needs made her get off her seat so often that it was hard to have her full participation in the TPS strategy at all times. Even so, Student B was able to accomplish the required activities and perform with a bit of effort made by the researchers. Her results showed both moderate interactive qualities in both pre and post implementation of the strategy but her scores did show a slight improvement.

Student C was a slow learner, and also often encountered technical difficulties. This resulted in a hard time in communicating with Student C that student C's guardian needed to call him out a few times too. Because he is a slow learner who had technical difficulties, student C doesn't seem to be interested in his classes most of the time. Student C was also not much of a talker, but he's very verbal when it comes to certain topics that he liked, whether they were related to the activity or not. Student C showed two kinds of reaction, either he was very quiet because his groupmate was very noisy, or he would join in the conversation. Student C scored the lowest in both TPS observation tool and QPI Rubric but there was minimal progress that researchers believed could be improved over a longer period of time.

Figure 2 presents the cross-case analysis of all 3 students. As a group, all four dimensions of quality of peer interaction increased, with Respect getting the highest score. Although there was a slight decrease in the respect score comparing before and after the implementation, they still scored high in respect since they displayed good manners and conduct during the study. Encouraging the students to take turns in sharing their opinions allowed positive interactions between peers (The Connections Lab, n.d.). They also scored similar pre- and post-implementation in Body Language since all 3 students were consistent with their on-camera behavior during online class sessions. The students' body language could also be a factor to consider when looking at the student's peer interaction. Their body language

showed their moods, emotions, and interest towards the activity at hand (De Stefani & De Marco, 2019). The biggest increase was seen in Cooperation scores for all 3 students. Activities that promote cooperation between peers had an important factor in the student's ability to comprehend each other's work. These types of activities also allow the students to have responsibility for what they have learned (Alberta Learning, 2002). All 3 students scored quite low in Verbal Communication for both pre- and post-implementation periods. However, the researchers still acknowledged the slight increase in their verbal communication scores and believed that it can still be improved in a longer period of time. Verbal communication can increase when students were given opportunities and guidance to do so, and when they experience types of teaching strategies that can enhance their peer interaction and performance (Bruce & Hansson, 2011).
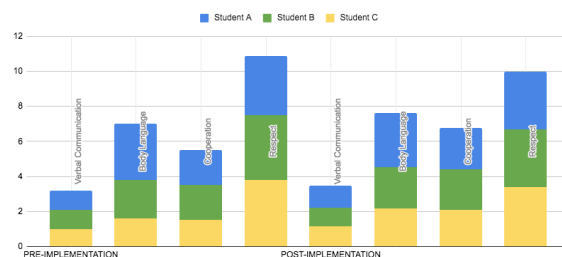

Fig. 2. Cross-case Analysis of QPI Rubric

Figure 3 presents the cross-case analysis of the amount of peer interaction for all 3 students who participated in the study. As a group, there was a big increase for the total number of minutes the students had peer interaction with each other. As seen in the figure, they also had an big increase in the amount of peer interaction.
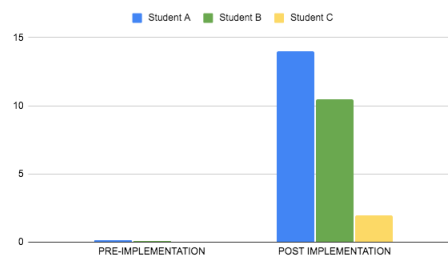

Fig. 3. Amount of Peer interaction (in minutes)

Overall, all three (3) students showed an increase in their quality of peer interaction and a very slight increase in their amount of peer interaction. The increase in the amount of peer interaction was seen on days of intervention but not much on days without. All three cases showed overall improvement in their peer interactions in online distance learning, though the progress was small and slow it was still evident which was why researchers believed that a longer period of application could help any type of young learner with their peer interactions.

Furthermore, as the students get used to the TPS activities, the researchers noticed that the need for prompts started to lessen. The researchers also appreciated this because the peer interaction seemed to be more organic since the students already know what to do when they are inside their breakout rooms. According to Kutbiddinova, Eromasova & Romanova (2016), the use of interactive strategies allowed better results in the amount of interaction not only with their teachers but also with their peers. Applying interactive strategies like the TPS strategy, allowed the students to feel more comfortable and at ease inside the classroom, in the researchers case, an online classroom. Not only did it motivate the students in participating in activities but it also developed their communication skills and provided self-confidence and better self-esteem. Due to the Covid-19 pandemic, online distance learning has been imposed on the educational system not only in the Philippines but the world. Applying interactive learning in online class sessions can be achieved through the use of advancements in technology. Through this, student's engagement and participation in online class sessions may increase (Tuma, 2021).

Based on the findings, the research questions are answered as follows:

For RQ1: How are the quality and amount of peer interaction before and after implementing the TPS activities?

Before the implementation, there was moderate interactive quality for all students. After the implementation, student B and C remained of moderate interactive quality while student A improved to high interactive quality. Comparing before and after implementation, a very slight increase was observed in the amount of interaction for all three students.

For RQ2: What are the effects of think-pair-share activities to online peer interaction?

The researchers concluded that implementing the TPS strategy to improve peer interaction in online classes is a great tool for children but a slow process. This especially showed a slight increase in peer interaction for students who are more shy or less talkative than others and also worked for students with special learning needs. The researchers also saw better results as the students would get used to doing the TPS strategy in online class sessions. The activities that were done using the TPS strategy not only enhanced the interaction between students but also their understanding and learning from the activity. Although there was only a very slight increase in the verbal communication dimension and a very slight decrease in the respect dimension of the students, overall, the students were able to score higher in terms of their interactive quality.

For RQ3: What are the reactions of the students towards the think-pair-share activities?

The students enjoyed the TPS strategy since it was something different to what they are used to and they also got a chance to interact with their peers. The students showed more interest in participating in activities by telling the researchers "I like this activity" or "Yay! We are doing the zoom rooms" (verbally) when implementing the TPS strategy. This allowed better quality and amount of peer interaction amongst the students. The students seemed more involved and comfortable in the activities and would understand and follow instructions better. It was also evident that the students look forward to activities involving the TPS strategy. The implementation was doable for any types of topics and activities because the researchers just needed to apply the TPS strategy in the given lesson plans.

4. CONCLUSION

Think-Pair-Share via Zoom Breakout rooms is a viable option to improve online peer interaction in children's online distance learning, as all three (3) cases showed an increase in their amount and quality of peer interaction. The strategy is also able to guide both regular students and students with special learning needs.

As such, the following are recommended: For teachers, it is recommended to use prompts for students who are more introverted. The use of prompts can provide the students with the confidence to do the work that they are tasked to do and follow the TPS strategy. Additionally, when using the TPS strategy in Zoom, there must be one teacher per breakout room.

For parents/caregivers, it is recommended to give their children more independence and space when in online distance learning. Parents should guide their children to talk to their classmates instead of focusing more time on the activity/work itself.

For future researchers, it would be better if the implementation period of the TPS strategy would be longer as well as the duration of each session, to give young students time to adjust to it so that they can get used to talking to their peers. Additionally, the peer interaction rubric is essential to the success of this study.

For students who have special learning needs, it is recommended to break the work loads into smaller parts for students to follow step by step. Since the TPS strategy takes more time than usual, researchers also suggest giving students with special learning needs a definite time limit or timeline for them to work with.

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