

International Journal of Learning, Teaching and Educational Research
Vol. 22, No. 4, pp. 160-177, April 2023
<https://doi.org/10.26803/ijlter.22.4.10>
Received Jan 10, 2023; Revised Mar 7, 2023; Accepted Mar 15, 2023

Developing Early Graders' Collaborative Skills through Group-Work, Play-Based Pedagogy

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Abstract. This study aimed to develop early grade learners' collaborative skills through group work and play-based pedagogy because collaboration is among the twenty-first century's core skills needed among learners. Thus, its development among early-grade learners is paramount, if they are going to fit seamlessly into the twenty-first century. Participatory-action research, as a research design and professional development workshop, guided this study. Three public primary schools (n = 3) and nine teachers (n = 9), who were purposely sampled, constituted the sample for the study. The study was conducted in the Owerri Education Zone, and the data were captured by using semi-structured interviews and learners' performance-rating scales. Respondent validity was employed through member checking to ensure the validity and reliability of the research instrument. Thematic data analysis was used to determine the results and the findings of the study. It was discovered that teachers' knowledge of group work play-based pedagogy was inadequate, thus hampering the development of collaboration skills among early-grade learners. Professional development workshops were mounted to solve the problem through teachers' capacity to use group play-based pedagogy to develop collaborative skills. Among the proffered recommendations was continuous in-service teachers' professional development of current collaborative pedagogical practices that encourage the active participation of early-grade learners.

Keywords: Early-Grade learners; Primary schools; Pedagogical practice; participatory action research; professional development workshop; Group Work play; Collaboration Skill

1. Introduction

Collaboration skill is among the indispensable skills needed for effective functionality in the twenty-first century. In present-day living, many people continue to depart from communal and collaborative living that characterised the past of a more individualistic and virtual society (Ogihara, 2023; Castells, 2014).

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Although this trend is heavily supported by technological advancement, the value associated with physical collaboration remains indispensable, especially for early-grade learners.

Collaboration is one of the 4Cs (communication, collaboration, critical thinking, and creativity) in the twenty-first century's core skills (Ahonen, & Kinnunen, 2015; Valtonen et al., 2017). It entails a team of two or more individuals working effectively to achieve a common goal or task (Ciampa, 2014; Johnson & Johnson, 2013). It is a skill cherished in the workspaces; as it enhances performance, creativity, and productivity in any organisation (Ciampa, 2014; Johnson & Johnson, 2013). Young learners who are prepared to fit into the workspace in the future, they must develop collaborative skills in their early years. Although collaboration can be physical or virtual, learners must develop collaborative skills with their peers, since learning will always progress from the concrete to the abstract, known to unknown, and simple to complex (Wood, 2013). Any learning facilitated in the twenty-first century devoid of this skill does not adequately and efficiently prepare learners to engage in their present-day society (Valtonen et al., 2017). Collaborative skills are a factor in developing interpersonal skills among early-grade learners; when this skill is overlooked, learners become hostile to themselves, their teachers, and everyone around them; because there is a gap in their relational (interpersonal) development. Hence, teachers are tasked with utilising their appropriate teaching pedagogy, such as group work play-based pedagogy, in order to improve their collaborative skills among twenty-first-century learners.

Teaching pedagogy remains a viable means of educating humans. Moreover, teachers are critical in determining a pedagogical strategy to facilitate their learning (Ahmad, 2016; Victor-Akinyemi, Uyanne, Udoji, & Oladele, 2021). Teachers are inarguably one of the critical actors that determine the pedagogical strategies to use in facilitating the learning of any learning community (Sellami, Ammar, & Ahmad, 2022). This is why teachers' approaches to learning are crucial to avoid colossal damage to learners. Nevertheless, teachers face various challenges that impede the effective delivery of their lessons, especially in a dynamic society, where approaches to teaching and learning are not static. In recent decades, Nigerian early-grade classrooms have continued to experience content and teacher-centred pedagogical approaches to learning (Ahmad, 2016; Victor-Akinyemi, Uyanne, Udoji, & Oladele, 2021). However, in recent years, there has been a relative departure from this pedagogical approach because of the passive characteristics of learners to a learner-centred approach that actively involves learners in their learning (Ahmad, 2016; Victor-Akinyemi, Uyanne, Udoji, & Oladele, 2021). However, teachers' inadequate resourcefulness in upgrading their knowledge of current research on active teaching and learning pedagogies impedes learners' interpersonal performance, which ought rather to enhance their collaboration and skills (Ekeh, 2020). This situation requires teachers' professional development to enable them to function effectively in their classrooms.

Equipping teachers for optimal performance is paramount in discharging their duties, especially for teachers who have been in the teaching service long after they graduated from a training College or University. Tuncel and Çobanoğlu (2018) mentioned that in-service teachers must continuously update their knowledge of new research on their learners' teaching skills, curricula, and pedagogy. Osamwonyi (2016) contended that the absence of in-service training results in teachers' professional retardation. Teachers would also be stunted in meeting their professional demands and productivity levels because of career gaps (Osamwonyi, 2016). Many researchers; and education stakeholders have underscored the importance of professional development programs for teacher improvement, including workshops, conferences, seminars, classes, and exhibitions (Mahmoudi & Özkan, 2015; Osamwonyi, 2016). In this study, it is imperative to prioritise professional development programs for early-grade teachers to develop learners' collaborative skills through group-work and play-based pedagogy.

The need to prioritise professional development for teachers is due to teachers' dominance in the classroom. As teachers dominate the teaching and learning, it renders learners inactive in the learning process. Teachers constantly use the chalk-and-talk method to teach learners who deny learners the opportunity of collaborative learning. Learners become apprehensive and intolerant among themselves because teachers are not deliberate in creating the learning atmosphere that encourages collaboration among learners. In most Nigerian early-grade classrooms, the traditional sitting arrangement of learners (sitting in rows and facing the chalk board,) which has not changed, is a pointer to a failure to enable a learning environment for collaborative learning. When young learners grow without the adequate acquisition of collaborative skills, they will find it difficult to adjust to the twenty-first century society; because collaboration skills remain one of the survival core skills in the twenty-first century. However, teachers role in bridging this gap and in encouraging learners' acquisition of collaborative skills remains significant. It is for this reason that the researcher has undertaken this study to enable teachers to develop early graders collaborative skills through group work and play-based pedagogy.

In this study, group work play-based pedagogy was considered ideal for developing learners' collaborative skills; because it affords learners interpersonal, engaging, and social experiences, leading to deep learning. Group-work play-based pedagogy is among the teaching and learning strategies that enhance learners' collaborative skills and develop their leadership and critical thinking skills; hence, the researcher's choice for this study. Nonetheless, teachers who facilitate learning by using this pedagogy must be equipped to achieve an optimal performance level. Therefore, the researcher opted for professional development to capacitate teachers in using - work play-based pedagogy, in order to facilitate collaboration among young learners. Specifically, the researcher aims to determine what group work play-based pedagogy teachers use to facilitate collaborative skills, and how the professional development of teachers in group work play-based pedagogy fosters collaborative skills among young learners.

2. The Literature review

Today's work life depends heavily on education to raise a commensurable workforce that meets the functional requirements of operating in the workspace (Ramsaroop, & Petersen, 2020; Valtonen et al., 2017). Among the functional requirements are information analysis skills that lead to knowledge creation (Valtonen et al., 2017). This skill is harnessed effectively and timely when individuals work as a team, in groups or collaborate on ideas yielding a more desirable outcome (Scoular, Duckworth, Heard, & Ramalingam, 2020; Valtonen et al., 2017). According to Scoular, Duckworth, Heard, and Ramalingam (2020), collaboration exceeds working with individuals in groups to an action where two or more learners bring their knowledge, resources and expertise to achieve a common task or project. Similarly, in this study, the author considered collaboration as partnering and uniting with two or more early-grade learners to jointly accomplish or produce a common task. As early-grade learners work together to achieve a common goal, they interdepend on one another's strengths, as they share their resources, experiences, and skills (Ruys, Van Keer, & Aelterman, 2014). Based on this premise, skill acquisition remains an excellent asset in human life. Hence, the acquisition and development of skills at any level are targeted at solving a problem and improving the current state of living (Scoular, Duckworth, Heard, & Ramalingam, 2020; Valtonen et al., 2017). To this end, collaboration skills are worth developing for early-grade learners.

Collaboration skills are among the skills that propose effectiveness in working in groups to achieve common goals, to solve problems, and to create social bonds (Scoular, Duckworth, Heard, & Ramalingam, 2020; Valtonen et al., 2017). Consequently, collaborative skills have been beneficial in reassuring accountability through probing questions, justifying responses, and reflective skills among learners (Scoular, Duckworth, Heard, & Ramalingam, 2020). There are two significant forms of collaboration: synchronous and asynchronous (Strang, 2013). Whereas synchronicity takes place in real time, asynchronicity takes place in the cloud. However, the critical elements in facilitating collaborative skills include communication, sharing, co-ordination, support, transparency, trust, problem-solving, accountability, diversity, open-mindedness, and conflict resolution (University of Waterloo, 2018). These critical elements of collaboration are necessary skills that early-grade learners must acquire for their holistic development.

Collaborative skills position learners to accomplish more tasks, boost their commitment and enthusiasm, and to plunge them into brainstorming ideas that lead to innovation (Hutchings & Quinney, 2015). When early-grade learners work collaboratively, they develop the ability to acknowledge the varying perspectives of their team members, to balance competing demands, and to show a sense of dependability and trust (Hutchings & Quinney, 2015). Nonetheless, the role of a teacher in facilitating these skills' development among early-grade learners is paramount to learners' successful development of collaborative skills (Kaendler, Wiedmann, Rummel, & Spada, 2015; University of Waterloo, 2018). Teaching early-grade learners how to collaborate to avoid unaccomplished tasks, or to become exhausted in executing their group tasks is crucial for teachers to facilitate collaborative skills. Hence in doing this, teachers have to clearly state the

instructions, the learning objectives, the purpose or goals and to acknowledge the strengths and the weaknesses of each learner (Kaendler, Wiedmann, Rummel, & Spada, 2015; University of Waterloo, 2018).

The teacher must provide adequate learning resources, promote openness and a culture of communication, in order to celebrate achievement and to utilise the mistakes, as a resource for learning opportunities (Kaendler, Wiedmann, Rummel, & Spada, 2015). Undoubtedly, some teachers still struggle to facilitate learning when using the most appropriate learning pedagogies (Walton, Nel, Muller & Lebeloane, 2014). However, competent teachers with twenty-first-century pedagogical prowess are central in facilitating collaborative skills (Ramsaroop & Petersen, 2020). This is because collaborative skills are among the core skills of the twenty-first century; hence, teachers' pedagogical approach plays a crucial role in their realisation (Kaendler, Wiedmann, Rummel, & Spada, 2015; Ramsaroop & Petersen, 2020). Play-based pedagogy is a well-appreciated twenty-first century teaching and learning pedagogy for early-grade learners (Ekeh, Venketsamy, Thuketana, & Joubert, 2022; Pistorova & Slutsky, 2018). Hence, early-grade teachers are encouraged to use it to facilitate collaborative learning among early-grade learners.

Although some educators may consider play among learners to be a waste of time in school while emphasising academic rigour with a focus on cognitive development, many educators consider play to be an essential role in early-grade learning and development (Pistorova & Slutsky, 2018; Pyle & Danniels, 2017). Play-based pedagogies are teaching and learning strategies that use fun and activity-based learning to capture and sustain early-grade learners' attention and interest in learning (Pyle & Danniels, 2017; Wood, 2013). According to Danniels and Pyle (2018) and Pyle et al. (2017), play-based pedagogies are divided into child-directed play activities (free play), mutually directed play activities (teacher- and learner-designed play), and teacher-directed play (mostly play during the game period). However, this study focuses on group work play-based pedagogies that harness collaborative skills among early-grade learners. This implies that both mutually directed and teacher-directed play are essential in this study (Lynch, 2015).

Group-work play-based pedagogy is among the primary components of cooperative learning, as it involves two or more learners learning from each other through play (Brame, Director & Biel, 2016; University of Waterloo, 2018). Through group work play-based pedagogy, learners engage in dialogue constructively, thereby understanding complex concepts; and they reach a consensus on the tasks they are working on (Brame, Director & Biel, 2016; University of Waterloo, 2018). In contrast to the regular classroom setting, the group-work play-based pedagogy classroom environment is inclusive, as the learners are all involved (Hedges & Cooper, 2018; Lynch, 2015). There are numerous flexible group work play-based activities that teachers can adapt to their classroom practices (University of Waterloo, 2018). Among these, fishbowl, think-pair-share, rotating trios, circle of voices, jigsaw, learning teams, and snowball groups; however, most teachers are unaware of these play activities and how they are to use them (University of Waterloo, 2018; Walton, Nel, Muller & Lebeloane, 2014). Due to teachers' inability to utilise most of the twenty-first-

century group work and play-based pedagogy to facilitate collaborative skills among early-grade learners, professional development workshops for in-service teachers became necessary.

According to Amadi (2013), teachers' professional development involves training for educators to enhance their skills and knowledge for personal and career advancement. Amadi further states that such training incorporates various learning opportunities, from college modules, conferences, pockets of learning opportunities at the workplace, consultations, coaching, and community practices (Amadi, 2013). Similarly, according to Amadi (2013), in-service training is constantly needed for teachers, because their learning is dynamic and never static. Next, most teachers are reluctant to engage in research to improve their classroom practices. Moreover, for teachers not to be unbraced with classroom innovation and practices, their professional development becomes a bridge that helps capacitate them in current best-classroom practices. Nevertheless, teachers are constantly faced with classroom challenges that are best addressed by professional development workshops (Le, Janssen & Wubbels, 2018; University of Waterloo, 2018).

Le, Janssen, and Wubbels (2018) showed that teachers encounter challenges in facilitating collaborative learning. Indeed, these challenges are not different from teachers' challenging experiences in facilitating collaborative skills among early-grade learners. These challenges impact teachers' effectiveness, the organisation of classroom activities, and learners' assessment (Le, Janssen & Wubbels, 2018). Teachers encounter challenges in organising collaborative learning, structuring and learning activities, managing learners' behaviour and time, providing relevant learning materials, and assigning roles to group members and individual learners (Le, Janssen & Wubbels, 2018; University of Waterloo, 2018). In their research on the preparation for collaborative activities, Ruys et al. (2014) indicated that teachers inadequately facilitated collaborative learning because of insufficient attention from the students. Furthermore, researchers state that teachers show uncertainty and ambiguity in monitoring group-work activities; as students are left to work without proper guidance, thereby leading to poor productivity (Le, Janssen & Wubbels, 2018).

The proper assessment of each learner's performance within the group is another challenge that teachers encounter when facilitating collaborative learning (Le, Janssen & Wubbels, 2018; Ruys, Van Keer, & Aelterman, 2014). Some scholars believe that teachers are challenged by the ambiguous nature of assessing or measuring the learning performance of each learner because of a lack of transparency and concreteness (Forsell, Forslund Frykedal & Hammar Chiriak, 2020; Ruys, Van Keer, & Aelterman, 2014). It is uncertain how teachers will determine each learner's level of work, or the input required to assign, measure, or grade it, nor is there any concrete template for measuring each learner's commitment to the group. However, this study used a learner's performance-rating scale to determine each learner's level of performance and commitment in group-work play-based pedagogy.

3. The Methods

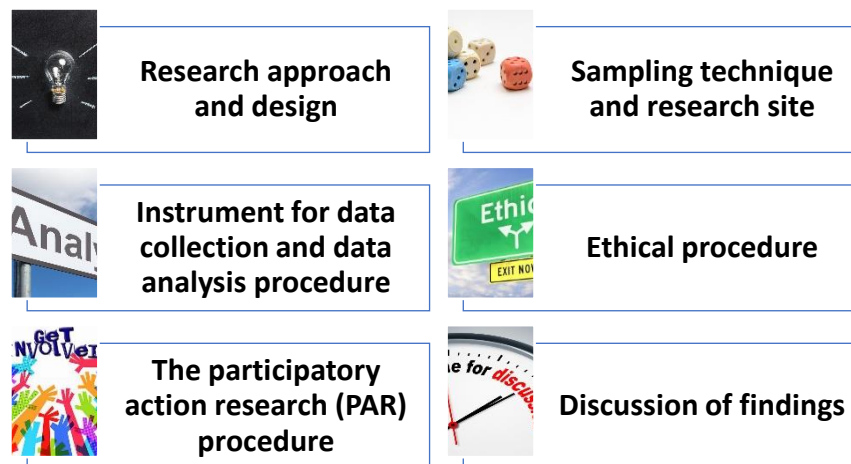


Figure 1: Flow chart on research methods (created by author)

3.1 Research approach and design

The qualitative research approach was used in the study because of its capacity to generate in-depth data from participants on the research phenomenon (MacDonald, 2012; Morales, 2019). Participatory-action research design was considered suitable for the study because it allowed the teacher-participants to collaborate with the researcher and take those actions that would bring about the desired change in teacher participants and young learners (MacDonald, 2012; Morales, 2019).

3.2 Sampling technique and research site

A professional development workshop that lasted three months was mounted with nine teachers as participants, who were purposely selected for the study. These teachers were deliberately selected because the researcher considered specific criteria (Creswell, 2020). The criteria included that they must be teachers with at least three ($n=3$) years of teaching experience, either in the pre-primary or junior primary (primaries 1-3 or grade 1-3) school levels. Next, public primary school teachers must be within the Owerri Education Zone of Imo State, Nigeria. Similarly, three public primary schools ($n=3$) were randomly selected to ensure fairness in selecting schools within Owerri's educational zone. In summary, three teachers ($n = 3$) represented each school selected for the study, for a total of nine teachers ($n=9$). However, at the time of the appraisal of the implemented program, two teacher participants were indisposed and dropped out of the study, leaving seven ($n=7$) participants to complete the study. However, this did not affect the study because the remaining seven participants were sufficient for the qualitative study to provide the required response.

The research site for this study was located in the Owerri Education Zone of Imo State, Nigeria. The state has three (3) major education zones: Owerri, Orlu, and Okigwe. The Owerri Education Zone was more appropriate for the study because the researcher needed an educated elite city as the baseline. The implication is that, as the Owerri zone underperforms in the research, other education zones

may be behind concerning the research in focus, because the Owerri zone is considered more advantaged because of the state capital that is in the zone.

3.3 Instrument for data collection and data analysis procedure

The semi-structured interview and learners' performance-rating scale for the three (n=3) pedagogical strategies used comprised the means of the data collection for the study. The validity of the research instrument was done via the respondent validity. In doing this, the researcher employed member checking resulting in the trustworthiness (credibility, transferability, confirmability and dependability) of the research project. Teacher participants were interviewed to enable the researcher to understand how knowledgeable teachers were about group-work play-based pedagogy and their practice of fostering collaborative skills among young learners. Their responses necessitated workshops in which they were capacitated on group-work play-based pedagogy that developed learners' collaboration skills. The workshops lasted for three months (n=3); and they were conducted after school hours, so that the learners were not disadvantaged in their learning during school hours.

The data for this study were analysed by using a thematic data-analysis procedure. In doing so, the researcher acquainted himself with the data, transcribed the data, and generated initial codes that were translated into themes. The themes were further modified until they were coherent and repeated the patterns that were reported. In particular, semi-structured interviews were conducted. After the teacher participants were capacitated at different workshops, they returned to implementing the pedagogical strategies learned in their classes. After three (3) weeks of implementation, they reconvened to appraise and analyse the implemented pedagogical strategies. Their appraisal and analysis formed part of the analysis used in this study, as the results were built into the findings.

3.4 The ethical procedure

The researcher secured written consent to participate in the study. This was obtained from all the participants. This was to ensure that the participants, of their own free will had volunteered to take part in the study. They were also informed that they were free to disengage from the study at any time when they wanted to, without explaining their reasons for doing so; and that such a decision would not have any consequences for them as teachers. Pseudonyms, such as T1, T2, and T3 were used to conceal the participants' true identities, thereby ensuring confidentiality and anonymity. The Research Ethics Committee of the University of Pretoria granted ethical approval for this research study. However, there was no vested interest from any individual or public in the research; as it did not receive any public funding or grants.

4. The participatory action research (PAR) procedure

The researcher and the teacher participants collaborated in three (3) professional development workshop trainings, in which group work play-based pedagogies (jigsaw, think-pair-share, and buzz group) were used to facilitate the collaboration skills. In applying these pedagogies, the researcher ensured that the PAR cycle

was well-incorporated, in order to ensure that the teacher participants grasped the teaching strategies to enable the proper implementation in their classrooms.

Figure 2 describes the actions taken in each phase of the professional development program for the teacher participants.

Through semi-structured interviews, the researcher and the teacher participants appraised the teachers' pedagogical status quo in Phase 1. Their responses led to the identification of problems in Phase 2 of Figure 2. The researcher and the teacher-participants proceeded to develop workable solutions in Phase 3. The development of a workable solution in Phase 3 led to the inclusion of the three (3) groups of work-play-based pedagogies (jigsaw, think-pair-share, and buzz-groups) used in the study. In Phase 3, the researcher trained the teacher participants to facilitate their collaboration skills by using each pedagogy. In Phase 4, the teacher-participants were released into various classes to replicate what they had learnt in Phase 3. As they carried out the implementation in Phase 4, the researcher visited their schools to observe the implementation process. In Phase 5, the researcher and the teacher-participants evaluated the implementation of pedagogy. At this stage, all the various pedagogies were successfully implemented; hence, there was no need for adjustments or repetition of the program in Phase 6.

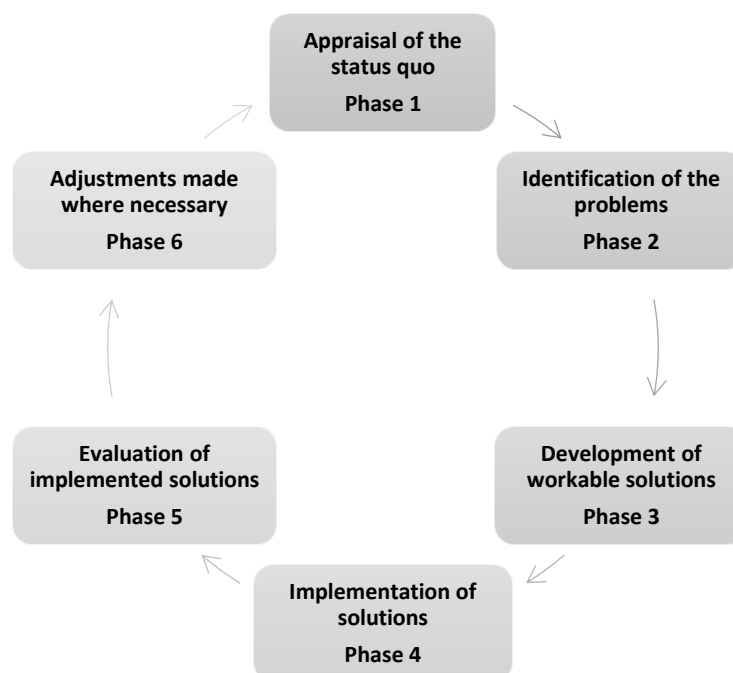


Figure 2: The participatory action research (PAR) cycle (Ekeh, 2020)

4.1 Jigsaw group-work play-based pedagogy

Like every other familiar teaching strategy, the teacher-participants effectively planned and prepared their teaching content and learning materials, while synchronising them with a jigsaw as a learning pedagogy. A jigsaw is most suitable for topics with multiple sub-contents. Most topics with sub-learning content may last for two to three weeks. However, in this study, the teacher-

participants and the learners were able to handle the two-week learning content in a single class session; and the learners comprehended the content because they were involved in the learning process. How does it work?

4.1.1 Introduce the home groups: The teacher-participants were divided into three learning groups called the "**home groups**". Each home-group member became a representative of the expert group. They became responsible for discussing and noting any new knowledge gained by the expert group. For example, a home group had three (3) teacher-participants, and these three (3) teacher participants were given numbers 1, 2, and 3. Breaking into the expert group, all the teacher-participants number 1 were regrouped into expert group 1; while those with number 2 were grouped into expert group 2. The same procedure applies to the teacher-participants 3.

4.1.2 Breaking into expert groups: At this point, the teacher-participants settled for group learning in expert groups 1, 2, and 3. Different mathematical puzzles were given to the teacher-participants in their expert groups to solve them within a given time-frame. Teacher participants were asked to return to their home groups when the allocated time was over.

4.1.3 Regrouping at the home group: regrouping in their home groups, group-members were allowed to share and learn from one another how they had solved the mathematical puzzles presented to them in their different expert groups. The implication was that each representative of the home-group became a teacher to other group members in their home groups; as they shared their learning experiences with the home group. For instance, Group Member one (1) shared and taught other members what she had learnt in the expert group. Home group member number two (2) also shared and taught other members in the sub-topic that she had learnt in her expert group; the same applies to group member number three (3).

4.2 Think-pair-share play-based pedagogy

Although this play-based pedagogy helps develop learners' critical thinking, the researcher considered it beneficial for facilitating collaborative skills among the young learners. This strategy makes learning enjoyable and fascinating. Using think-pair-share, the teacher participants were presented with a learning task, allowing them to individually think through and process the learning task with a possible answer. They were then paired to correspond with their answers and with their peers.

For example, to facilitate word generation in the English language, the teachers were presented with the word "GENERATION" and they were asked to generate 30 words within 25 minutes. Examples of words generated include GENERATE, IT, ON, NATION, NO, NET, TEN, RAT, NEAR, RATION, and GEAR. Individual teacher participants had to "**think**" and generate words within 25 minutes. Afterwards, they "**paired**" themselves and "**shared**" the answers they had generated with their peers. After the first pairing, they changed and paired with another learner to crosscheck the answers the participants had received. In this

process, they increased their vocabulary by adding new words that they had obtained from their peers' answers to that which they already had after having compared notes with their peers.

4.3 Buzz-group work play-based pedagogy

The buzz-group work play-based pedagogy uses small discussion groups of to 3-8 young learners to help them develop and generate ideas, to solve problems, and to think critically (Balslev et al., 2015; Clarence, 2018). Donald Philips from Michigan State University was the first to use the buzz-group technique. He applied this approach by dividing his class into clusters of six learners; and the n asking them to discuss specific problems within six minutes. And this was very effective.

This group-work play-based pedagogy was applied in the teachers' professional development workshop by splitting the teacher participants into groups of three; while asking them to identify one word that fits into the four blank spaces presented in a task. For example, **A rich man wants _____; a poor man has _____.** **If you eat _____, you die; when you die, you can take _____ with you.** The task was meant to foster collaboratve skills among the teacher participants; and the outcome was positive.



Figure 3: The study's professional development workshops (Ekeh, 2020)

5. The Findings

Overall, group-work play-based pedagogy developed early grade collaborative skills. The teachers were not well-informed about the twenty-first century pedagogies that enhanced collaboration skills among the early-grade learners. The researcher believed that this was a significant gap in teachers' pedagogical practice in developing collaborative skills in the early grades. The two main themes that emerged from the study were teachers' perspectives on facilitating group work play-based pedagogy and fostering collaborative skills among early-grade learners.

5.1 Teachers' perspectives on facilitating group-work play-based pedagogy

In Phase 1 of PAR, the researcher appraised teachers' understanding of group-work play-based pedagogies. This appraisal aimed to ascertain what group-work play-based pedagogies teachers used in their classroom practice. Below are their responses.

In their interview responses, T1, T3, T4, and T6 indicated that they *"use storytelling, singing, dance and drama"* as group work play-based pedagogy. However, T3 explained that she prefers story-telling because *"Children like stories and they like playing. So, if you start teaching them with playing and storytelling, you will find out they will be reacting to them, answering the question you asked them, and bringing their idea because all of them come from a home. So, when you're talking to them: playing and telling the story, they will grab it quickly"*. According to T6, *"I use singing and dancing to expose teaching materials, pointing out those drawings on the diagrams, and allowing the children to pronounce them in their own words"*.

T2, T5, T7, and T8 mentioned using the *"playway method."* T2 indicated that she uses the playway method because *"it would enable the children to remember what they have been taught"*. Similarly, T7 mentioned that she used it because *"the children learn more and faster through the playway method. Yes, because they play, they will play with the teacher and their classmates, using all those teaching materials. Eeh, you will see them holding play materials. They will be saying things in their language, and you will see them smiling with happiness. They put more interest in their work while I stand aside, looking at them"*.

In the words of T8, *"the children love playing, and as they are playing, you are to use the play-method to teach them, which will help them. They will not forget that lesson because they will recollect their role and what they did then and be able to do I again"*. T9, in her description, said, *"anyway, I use class discussion, grouping the pupil then engaging them in discussion. Why do I like this? It is because the idea had come from them. Likewise, the answer will come from them also. That's why I like the discussion"*.

According to the University of Waterloo (2018) and Brame et al. (2016), group-work play-based pedagogies are among the co-operative learning strategies that involve learning in groups of two or more through play. Teacher participants, while responding to the group work play-based pedagogies that they used, showed a reasonable understanding of having used dance, drama, and storytelling; consequently, they were not completely in the dark regarding play-based pedagogy. Although some teacher-participants mentioned using the play-way, as a pedagogical strategy, they were not specifically referring to the group-work play-based pedagogy that they had used. Walton, Nel, Muller & Lebeloane (2014) and the University of Waterloo (2018) mentioned that most teachers are not knowledgeable about twenty-first century group-work play-based pedagogies. Pedagogies include fishbowl, think-pair-share, rotating trios, circle of voices, jigsaw, learning teams, and snowball. Apart from T9, who mentioned grouping the pupils and engaging them in discussions, it is understandable from Phase 1 that teacher participants' knowledge of group-work play-based pedagogy was inadequate.

This interview formed a baseline assessment for the researcher to identify the gap in teachers' pedagogical practice and to proceed with planned professional development for teacher participants, as indicated in Figure 2, which was done according to Figure 2. The following section discusses the theme of developing early-grade collaboration skills.

5.2 Fostering collaboration skills among early-grade learners

The researcher used a learner performance rating scale to appraise the performance of early- grade learners through their classroom teachers, who had implemented the programs in their classrooms. Generally, early grade learners' performance in collaboratiive skills have been significantly developed and enhanced.

Table 1: Learners' performance-rating scale in developing collaborative skills

Collaborative skills appraised after program implementation		Early Grade Learners Rating Scale				
		Very poor	Poor	Good	Very Good	Excellent
1.	<u>Jigsaw</u>					
i.	Early grade learners integrated into the group successfully.		1		2	4
ii.	Early grade learners enjoyed interacting with group members.			1	2	4
iii.	Early grade learners shared working materials appropriately.			2	4	1
iv.	Early grade learners worked together in a group as friends.				3	4
v.	Early grade learners negotiated during group work.		1	1	3	2
vi.	Groups of early grade learners learnt from their mistakes.		1		3	3
vii.	Groups of early grade learners achieved the common goal set out for them.		1		3	3
2.	<u>Think-pair-share</u>					
i.	Early grade learners integrated into the group successfully.		1		3	3
ii.	Early grade learners enjoyed interacting with group members.				2	5
iii.	Early-grade learners shared working materials appropriately.				4	3
iv.	Early-grade learners worked together in a group as friends.				3	4
v.	Ear-y-grade learners negotiated during group work.		1		4	2
vi.	Groups of early-grade learners learnt from their mistakes.				4	3
vii.	Groups of early-grade learners achieved the common goal set out for them.				3	4
3.	<u>Buzz-groups</u>					
i.	Early-grade learners integrated into the group successfully.				3	4
ii.	Early-grade learners enjoyed interacting with group members.				3	4
iii.	Early-grade learners shared working materials appropriately.			2	3	2
iv.	Early-grade learners worked together in a group as friends.				4	3
v.	Early grade learners negotiated during their group-work.		1	1	3	3
vi.	Groups of early-grade learners learnt from their mistakes.		1	2	2	2
vii.	Groups of early-grade learners achieved the common goal-set out for them.			1	3	3

Responding to Table 1:1, all the teacher-participants noted a remarkable development of collaborative skills among early-grade learners. In their response, they mentioned that early-grade learners successfully collaborated, interacted, shared learning material, resolved conflicts through negotiation, and learned from each other, in addition to achieving their set-out tasks. However, T2 reported that a few learners had struggled to integrate into their group, while one group was slow to achieve their group tasks. However, the poor performance recorded in Table 1:1 for the T2 classroom was insignificant; because it was only noted in items (i) and (vii). Additionally, poor performance may be attributed to the challenges of managing learners' behaviour and facilitating their collaborative learning (Le, Janssen & Wubbels 2018). Nevertheless, the findings corroborated the claims of Brame, Director, and Biel (2016), who found that group-work play-based pedagogy enables learners to reach consensus, engage in dialogue constructively, and comprehend complex concepts. Scoular, Duckworth, Heard, and Ramalingam (2020) also noted that when learners work as a team and collaborate in ideas, they accomplish desirable learning objectives.

T1 noted that while facilitating collaborative skills by using think-pair share, some learners could not negotiate and integrate successfully with their peers, as shown in Table 1:2. This finding was mainly linked to T1. This could imply that the performance may not be unconnected to the assertions of Kaendler, Wiedmann, Rummel, and Spada (2015) and the University of Waterloo (2018), who noted that teachers must coherently state learning objectives and instructions to their learners when facilitating group work play-based pedagogy. However, other teacher-participants agreed that think-pair-share implementation was significantly successful in their classrooms, as learners responded positively to the performance-rating scale.

The findings imply that the learners were receptive, adapted to new learning, showed mutual support, and collaborated. This confirms that teachers play a significant role in successfully facilitating collaboration skills (Kaendler, Wiedmann, Rummel, & Spada, 2015). According to Ciampa (2014) and Johnson and Johnson (2013), collaborative capacities team members to support one another and unite to accomplish a task in a win-win situation.

The teachers' responses in Table 1:3 indicate a substantial impact of buzz-group play-based pedagogy in developing the collaborative skills of early-grade learners. All the teacher participants agreed that learners achieved their learning objectives, learned from each other, related, and interacted positively among themselves, shared learning materials, and appropriately adjusted in their group. Although T4 agreed with the other teacher-participants on all items except for items (v and vi), she disagreed that the learners in her class did not negotiate during group-work, or learn from their mistakes. However, the findings correspond with the views of Scoular, Duckworth, Heard, and Ramalingam (2020), who maintained collaboration to mean sharing knowledge, resources, and expertise to realise the team goals. Similarly, Kaendler, Wiedmann, Rummel, and Spada (2015) noted that learners achieve team goals when teachers provide adequate learning resources, celebrate learners' achievements, and utilise mistakes as a resource for learning opportunities.

6. The Results

The study aimed to determine which group-work play-based pedagogy teachers could use to facilitate collaborative skills, and how the professional development of teachers on group work play-based pedagogy fostered collaborative skills among young learners.

The findings from the study showed that think-pair-share, jigsaw and buzz-group pedagogies facilitated collaborative skills among young learners. It was also discovered that teachers had inadequate knowledge of these group work play-based pedagogies, which aided the development of collaborative skills in the early grades. Next, teachers' professional development workshops are necessary, in order to upskill in-service teachers in various group-work play-based pedagogies. Professional development workshops are indicators that the teachers' community of practice is a viable means for cross-breeding various ideas among teachers. The findings also showed that early-grade learners' collaborative skills were enhanced after teachers were capacitated on the use of group-work play-based pedagogy in teaching early graders. The study also showed that early-grade learners are flexible in learning; and they can adapt to any teaching strategy. Early-grade learners' collaborative skills were adequately enhanced when using various group-work play-based pedagogies as mentioned earlier.

7. Conclusion

There were pockets of research evidence that reflected early-grade classroom pedagogical practice as being teacher-centred, in addition to the researcher's first-hand evidence. Such pedagogical practices hampered the development of collaborative skills among early-grade learners. This was the pivot among the motivations leading to the research "developing early- grade collaborative skills through group work play-based pedagogy." In determining the group work play-based pedagogy teachers use to facilitate collaborative skills among learners, the researcher adopted a participatory action-research approach as a professional development strategy.

It was discovered that most teachers were not knowledgeable about using twenty-first century group-work play-based pedagogies to facilitate collaborative skills among early-grade learners. The contribution of the study was eminent in that, learners' collaborative skills were significantly improved after teachers had been capacitated in their various training workshops. Teachers who received the training formed a community of practitioners to assist in educating their colleagues on using group-work play-based pedagogy to facilitate learning.

The implication of the study is that, many teachers who continue to use the teacher-centred teaching approach are doing so because they are not knowledgeable on how to facilitate learning by using the twenty-first century learning strategies. Learners who are taught by such teachers are disadvantaged because they are not exposed to the twenty-first century survival skills. Additionally, this implies that the government needs to organise professional workshops, in order for teachers to upskill their knowledge on twenty-first century skills

This study is limited to a few early-grade teachers who were selected in the Owerri Education zone. It was further limited to early-grade teachers who teach the nursery/kindergarten up to primary/grade 2. There is a need to conduct studies to include other grades and levels of education on the use of these strategies within the educational zone.

8. Recommendations

From the findings of this study, the researchers recommend continuous professional development training for early-grade in-service teachers in group-work play-based pedagogies. Trained teachers may organise a community of practice among teachers of proximity to assist in capacitating them in learning pedagogies. Teachers should be encouraged to participate in research, in order to improve their classroom teaching pedagogies. Teachers must play down the use of teacher-centred pedagogies and concentrate on the use of pedagogies that encourage active learning among learners. Teachers must have adequate preparation to facilitate collaborative skills in the early grades.

Acknowledgement: I am thankful to my PhD supervisors at the University of Pretoria, South Africa, for their guidance in collecting the data used in this research.

9. References

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