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Parent-Assisted Early Literacy and Numeracy Practices: Basis for A Proposed Intervention Program

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ABSTRACT

Pre-reading and numeracy skills of kindergarten learners currently lack substantial scientific evidence, and continuously pose a challenge in all early childhood learning institutions. To delve into this issue, the researcher conducted a study to find out how the parent-assisted early literacy practices affected pre-reading and numeracy skills as basis for designing an intervention program. A descriptive correlational research design was used in order to attain its objectives. The respondents of the study were the parents or guardians of the kindergarten learners of the three elementary school of Esperanza II, Division of Agusan del Sur who were chosen through cluster sampling and which sample size was determined through Slovin's formula. Self-made research instruments were used to answer the problems of the study. Mean and standard deviation were used to measure the level of parent-assisted early literacy practices, while frequency and percentage were used to describe levels of the pre-reading and numeracy skills of kindergarten learners. Moreover, significant relationships were measured using Spearman Rho correlation. The findings of the study revealed that the level of parent-assisted early literacy practices in terms of reading and numeracy were satisfactory and very satisfactory, respectively. Further, significant relationship existed between parent-assisted early literacy practices and pre-reading skills in terms of phonological awareness, and numeracy skills in terms of number knowledge, number representation, and basic operation on addition and subtraction. An intervention program was crafted based on the findings of the study.

KEYWORDS

Pre-reading; numeracy; parent-assisted literacy practices; descriptive correlational.

INTRODUCTION

The development of pre-reading skills is seen to affect the learners' entire learning journey. However, learners find it difficult to acquire the pre-reading skills due to their inability to meaningfully interpret or decode written or graphic symbols of language (Akubuilo, 2022). On the other hand, learning to count, identify numbers, and compare and manipulate quantities are key to early numeracy skills (Raghubar, & Barnes, 2021). However, numeracy is far less studied despite the fact that it is the strongest predictor of both later math success as well as success in other academic domains (Duncan et al., 2022). In fact, studies show that number knowledge difficulties are developed at the early stages of the learners' life (Rivera-Batiz, 2022). More so, children who have abundant learning opportunities at home are more likely to develop their literacy on both language and numbers (Kelley, 2021). Yet, parents are faced with the challenges and difficulties in providing meaningful learning

experiences in order to facilitate the literacy development of their children (Hutton et al., 2022).

Although, the reading ability and numeracy skills continue to grow and develop throughout the age range, the early years of childhood are the most important periods for the aforesaid to achieve (Suharti et.al., 2018). Likewise, the academic success of a child depends on his/her ability to read (Peng & Keivit, 2020) and early numeracy is critically important for later mathematical development (Toll et al., 2021) and a predictor of academic success (Duncan et al., 2022), however, little attention has been paid to strengthen the early foundation for reading and numeracy skills among kindergarten children (Shah et al., 2018).

Moreover, the development of pre-reading skills is advocated in the context of early childhood education. Kindergarten pupils are expected to use knowledge sound structure specifically phonemic awareness and knowledge of the symbol-sound as they progress in school (Perena & Perez, 2019). On the other hand, numeracy skills are being developed as part of the Kindergarten Curriculum Framework (KCF) considering its importance in honing and gaining learner's holistic development (Red, 2023). However, learners in their early childhood years showed low reading literacy skills due to the lack of reading elements, and shortage in reading materials and facilities (Librea et al., 2023). Additionally, kindergarten learners show poor performance in numeracy due to the inability of teachers to use visual tools in explaining mathematical ideas and concepts (Barmby et al., 2021). Similarly, gaps in reading literacy brought about by the non-mastery of the reading elements (Tomas, et.al, 2021) and disparity on numeracy skills brought about by ineffective use of visual images (Alshatri et al, 2019) among kindergarten learners still exist.

On the other hand, parents' literacy and numeracy practices at home are found to have significant relationship on the development of the aforesaid skills in school among children (Grotlüschen et al., 2020). However, differences in the home learning environments that parents provide for their children exist (Lehrl, et al, 2020). Parents with poor literacy and numeracy practices at home tend have caused their children to have less-developed numeracy and literacy skills in school which often result to difficulties in later reading and mathematics (Napoli et al., 2021). Consequently, parents fail to create early literacy and numeracy opportunities at home which often result to non-mastery of the skills (Romero-González et al., 2023).

In the selected schools of Esperanza II, Division of Agusan del Sur, kindergarten learners show non-mastery of the pre-reading and numeracy skills as evidenced on their progress report cards. However, driven by the vision and mission statements of the Department of Education, it has become the primordial priority of the schools, that learners in all levels should be equipped with the necessary 21st-century, including the development of reading and numeracy skills, that would make them globally competitive (DepEd Order No. 21, s. 2019).

While there have been extensive studies already conducted about the development of numeracy and literacy skills in early childhood (Salminen et al., 2021), foundational mathematics and reading skills (Igarashi, &, Suryadarma, 2023), and on the factors that influence improvement in numeracy, reading, and comprehension (Dowker, 2021), however, these studies are univariate in nature involving analysis of one variable only and do not consider parent-assisted early literacy practices as one of the factors. Moreover, the researcher found it difficult to look for similar studies within the locale that delved into the pre-reading and numeracy skills of kindergarten learners and how these skills were affected by parent-assisted early literacy practices. With these being considered, the researcher felt that there is a pressing need to study on the role of parent-assisted literacy and numeracy

skills development in order to address and develop the pre-reading and numeracy skills of kindergarten learners in the locale.

Theoretical Framework of the Study

This study was anchored on the Zone of Proximal Development by Vygotsky (1934). It delineates that the zone of proximal development is the difference between the current level of cognitive development and the potential level of cognitive development. It explains the gap between what a learner has mastered and what they can potentially master with support and assistance.

In this study, Zone of Proximal Development was used to explain how parent-assisted early literacy practices contributed to the kindergarten learners in developing their literacy and numeracy skills. As such, any difference in the pre-reading and numeracy skills of the kindergarten learners, is attributed to the support and assistance of their parents at home. Further, the theory was used in explaining how reading habits and numeracy skills of the kindergarten learners were formed through the parent-assisted literacy practices, as the stimuli. These stimuli were considered in crafting the proposed intervention program in order to produce favorable responses from the kindergarten learners, thereby acquiring the literacy and numeracy skills needed to progress in their learning.

Finally, considering the aforesaid theory, the proposed intervention was designed purposively to develop the pre-reading and numeracy skills (response) of kindergarten learners of the three selected schools of Esperanza II through an improved parent-assisted literacy and numeracy practices (stimuli).

Objective of the Study

The study assessed the level of parent-assisted early literacy practices and its relationship towards the pre-reading and numeracy skills of kindergarten learners in three selected schools of Esperanza District, Division of Agusan del Sur for academic year 2023-2024.

RESEARCH METHODS

Research Design

This study utilized descriptive-correlational design to answer the problems. According to Gillaco (2019) descriptive-correlational method investigates facts in relation to a current situation. Furthermore, this method works primarily on the description, comparison, analysis, and interpretation of data that exists. It is also used to explore co-varying relationships between two or more variables. Further, it is used to identify variables that relate to each other, to make predictions of one variable from another variable and to examine possible cause and effect relationships between one variable and another.

In this study, descriptive-correlational method was used to describe the levels of parent-assisted early literacy practices, pre-reading skills, and numeracy skills of kindergarten learners. It was also used to determine the relationship between the parent-assisted early literacy practices and the pre-reading and numeracy skills of kindergarten learners. The results of the study became the bases in developing the proposed intervention program for kindergarten parents/guardians.

Research Locale

The study was conducted at the three elementary schools of Esperanza II, Division of Agusan del Sur as shown in Figure 2. These schools with its principal and teachers, together with its internal and external stakeholders continue to provide equitable access to quality basic

education and strive hard towards the realization of the DepEd's vision, to develop holistic Filipino children who passionately love their country and whose values and competencies enable them to realize their full potential and contribute meaningfully to building the nation.

These three elementary schools offer complete elementary basic education. These schools are public elementary schools that ensure the production of intended outputs/outcomes and meeting all standards of a system fully integrated in the local community and is self-renewing and self-sustaining. Moreover, these schools introduce and sustain continuous improvement processes that integrates wider community participation and significantly improve performance and learning outcomes.

Finally, the researcher preferred to conduct the study on these schools, because the researcher would want to provide a research-based data on how parent-assisted early literacy and numeracy practices affect the pre-reading and numeracy skills of the kindergarten learners in the locale. In this manner, necessary interventions may be prepared on parent-assisted early literacy and numeracy practices in order to develop such skills among kindergarten learners.

Population and Participants of the Study

The study was conducted among the parents or guardians of the kindergarten learners of the selected elementary school of Esperanza II, Division of Agusan del Sur, who were chosen through cluster sampling. In this manner, the parent/guardian of the kindergarten learners were grouped according to school and the sample size was determined using Slovin's formula. By doing so, the results were comprehensive to the context currently studied.

Table 1. Distribution of Respondents

Name of School	N	n	%
1. Anolingan Integrated School	22	19	27.54%
2. Cebulan Elementary School	11	10	14.49%
3. San Toribio Elementary School	50	40	57.97%
Total	**83**	**69**	**100.00%**

Legend: N = Number of Respondents, n = sample size

Sampling Design

The study used cluster sampling. This means that all parents or guardians of the kindergarten learners of the selected schools were grouped according to school. The sample size per school was determined using Slovin's formula. The parent-respondents per school were chosen using a lottery method, where names were written in a piece of folded paper and were drawn one at a time until the desired sample size was met. Moreover, the researcher ensured that the respondents are the legal parents or guardians of the kindergarten learners duly certified by the kindergarten advisers and school principals.

The aforesaid were done to extract the justifiable number of respondents to participate in the study. Considering the fact that the researcher works in one of these schools, the conduct of the study was easily carried out.

Research Instrument

The study used two researcher-made instruments to answer the problems of the study. These instruments were subjected for the validation of the experts and reliability testing.

First, was a questionnaire concerned with the parent-assisted early literacy practices in terms of reading and numeracy. This was answered by the parents or guardians of the kindergarten learners. This was composed of two parts. Part I asked for the personal profile

of the parents or guardians. Part II asked for the parent-assisted early literacy practices in terms of reading and numeracy. There were ten (10) statements for reading and ten (10) statements for numeracy. Also, the statements were translated to vernacular to make it more understandable for the parents or guardians.

Second, the pre-reading skills and numeracy skills test. This was answered by the kindergarten learners. This was composed of two parts. Part I asked the personal profile of the kindergarten learners. Part II measured the pre-reading skills and numeracy skills of the kindergarten learners.

Validity and Reliability of the Research Instruments

The researcher used two researcher-made instruments. The first instrument was used to determine the level of parent-assisted early literacy practices in terms of reading and numeracy and the second instrument was used to determine the pre-reading and numeracy skills of the kindergarten learners. As such, these questionnaires were subjected to the validation of the experts. Their comments, suggestions, and recommendations were incorporated in the final draft. After which, a reliability test followed. This was conducted among parents with kindergarten learners other than those who were selected as the respondents of the study. The overall Cronbach alpha coefficients of the instruments on parent-assisted early literacy practices and pre-reading and numeracy skills of the kindergarten learners were .869 interpreted as very high and .773 interpreted as high respectively. According to Nunnaly (2018) the cutoff value for an acceptable reliability coefficient is 0.7. Further, the higher the score, the more reliable the generated scale is. As such, the overall Cronbach alpha coefficients of the instruments are within the cut-off value which means that the items have internal consistency and are deemed reliable.

Data Gathering Procedure

In collecting the data, the following procedures were undertaken: The researcher sought approval from the Dean of the Graduate School to conduct the study and gather data. Then, the researcher asked permission through letter from the Schools Division Superintendent of Agusan del Sur. A letter of the same content was given to the District In-Charge or District Supervisor and to the School Principal. Copies of the approved letters were appended. Moreover, the conduct of the survey among the parents or guardians of the kindergarten learners was done face to face.

Statistical Treatment

The data were analyzed using the following statistical tools:
Weighted Mean and Standard Deviation. These were used to describe the level of parent-assisted early literacy practices in terms of reading and numeracy of kindergarten learners. Frequency and Percentage. These were used to describe levels of the pre-reading and numeracy skills of kindergarten learners. Spearman Rho Correlation. This was used to determine the significant relationships between the parent-assisted early literacy and numeracy practices and pre-reading and numeracy skills of kindergarten learners.

RESULTS AND DISCUSSION

Level of Parent-Assisted Early Literacy Practices in Terms of Reading

Table 2 presents the level of parent-assisted early literacy practices in terms of reading. It shows that the overall weighted mean is 3.38 described as sometimes which means that the parent-assisted literacy practices in terms of reading are satisfactory. This suggests that the

activities and practices done by the parents at home to develop the reading skills of the kindergarten learners are satisfactory. In addition, the overall standard deviation is .708 which is less than one denoting that the respondents have ratings that are practically almost the same.

The Table further reveals that the mean rating of the items ranges from 3.00 to 3.90. Notably, the items *I read stories to my child at home, and I encourage my child to notice the pictures in the story* have the mean ratings of 3.00, described as sometimes, interpreted as satisfactory *w*hile the item *I teach my child how to make letter sounds correctly* has a mean rating of 3.90, described as often and interpreted as very satisfactory.

Table 2. Level of Parent-Assisted Early Literacy Practices in terms of Reading

Indicators	Wtd Mean	SD	Verbal Description	Interpretation
1. I teach my child how to make letter sounds correctly	3.90	.957	Often	Very Satisfactory
2. I make sure the child can write the capital and small letter and match them correctly.	3.86	.989	Often	Very Satisfactory
3. I ask my child about the beginning sound of the words being uttered.	3.58	.864	Often	Very Satisfactory
4. I ask my child whether the two words have the same ending sound.	3.10	1.087	Sometimes	Satisfactory
5. I ask my child to tell rhyming words.	3.19	1.102	Sometimes	Satisfactory
6. I let my child identify the letters, and their sounds correctly.	3.46	.979	Sometimes	Satisfactory
7. I read stories to my child at home.	3.00	1.085	Sometimes	Satisfactory
8. I listen as my child reads and give corrections as needed.	3.48	1.120	Sometimes	Satisfactory
9. I encourage my child to notice the pictures in the story.	3.00	1.057	Sometimes	Satisfactory
10. I let my child read simple one-syllable words correctly.	3.19	1.061	Sometimes	Satisfactory
Overall Weighted Mean	**3.38**	**.708**	**Sometimes**	**Satisfactory**

Legend: 1.00-1.49-Never/Very Poor; 1.50-2.49-Seldom/Poor; 2.50-3.49-Sometimes/Satisfactory; 3.50-4.49-Often/Very Satisfactory; 4.50-5.00-Always/Excellent

The findings imply that parents do their best in order to develop the reading skills of their children. They make it a habit that variety of reading activities are available at home which include reading stories, noticing pictures in the story, and teaching how to make letter sounds correctly.

The result supports the study of Curry et al. (2022) who divulged that shared readings and discussions are practiced by parents at home in order to model positive attitude towards reading literacy. Moreover, these range of activities which include reading and noticing pictures in the stories, and teaching how to make letter sounds correctly provide their children some sort of encouragement, incentives, and assistance with the academic tasks.

In addition, the result is in consonance with the findings of Andrews and Slate (2019) who revealed that parent-assisted early literacy practices on reading follows a set of home-based standards designed mainly to build the social, physical, emotional, and cognitive development of their children. By doing so, the possibility that their children will succeed in school is amplified.

Level of Parent-Assisted Early Literacy Practices in Terms of Numeracy

Table 3 presents the level of parent-assisted early literacy practices in terms of numeracy. It shows that the overall weighted mean is 3.55 described as often which means that the parent-assisted literacy practices in terms of numeracy are very satisfactory. This suggests that the activities and practices done by the parents at home to develop the numeracy skills of the kindergarten learners are very satisfactory. In addition, the overall standard deviation is .732 which is less than one denoting that the respondents have ratings that are practically almost the same.

Table 3. Level of Parent-Assisted Early Literacy Practices in terms of Numeracy

Indicators	Wtd Mean	SD	Verbal Description	Interpretation
1. I make my child count.	4.36	.954	Often	Very Satisfactory
2. I make my child count things in our home.	3.64	1.014	Often	Very Satisfactory
3. I teach my child to follow the number sequence.	3.80	1.051	Often	Very Satisfactory
4. I teach my child to solve an easy addition problem.	3.29	1.113	Sometimes	Satisfactory
5. I teach my child to solve an easy subtraction problem.	3.16	1.106	Sometimes	Satisfactory
6. I let my child buy small things at the store and ask how much the change is.	3.43	1.230	Sometimes	Satisfactory
7. I let my child sing a song that involves counting.	3.45	1.065	Sometimes	Satisfactory
8. When walking, I let my child count his/her step until he/she can count.	3.01	.978	Sometimes	Satisfactory
9. I teach my child to write correct number sequence at home.	3.64	1.224	Often	Very Satisfactory
10. I ask my child to prepare plates on the table and let him/her count those.	3.68	1.105	Often	Very Satisfactory
Overall Weighted Mean	**3.55**	**.732**	**Often**	**Very Satisfactory**

Legend: 1.00-1.49-Never/Very Poor; 1.50-2.49-Seldom/Poor; 2.50-3.49-Sometimes/Satisfactory; 3.50-4.49-Often/Very Satisfactory; 4.50-5.00-Always/Excellent

The Table further reveals that the mean rating of the items ranges from 3.01 to 4.36. On the one hand, the item *When walking, I let my child count his/her step until he/she can count* has the mean rating of 3.01, described as sometimes, interpreted as satisfactory *w*hile the item *I make my child count* has a mean rating of 4.36, described as often and interpreted as very satisfactory.

The results imply that part of the literacy practices of parents at home is teaching their children how to count. Common practice among parents was letting their children count their steps while walking and the task is done repeatedly until their children know how to count.

The finding shows conformity with the study of Scholastic (2019) who unveiled that rent-assisted early literacy practices in numeracy should focus on exploration and discovery of number activities. These will enable the child to discover a wide variety of cognitive, social, physical, and emotional learning experiences.

Moreover, the finding is similar to the study of Rock (2023) who unwrapped that teaching of the basics to children such as counting is the emphasis of parent-assisted early literacy practices in numeracy. When such is done in a manner where children develop positive attitude then most likely, their chance of succeeding in their academic journey is greater.

Level of Pre-reading Skills of the Kindergarten Learners

Table 4 presents the level of pre-reading skills of the kindergarten learners in terms of letter knowledge, and phonological awareness. In terms of letter knowledge, none or 0% is in the beginning level, nine or 13.0% are on the developing level, and 60 or 87.0% are on the consistent level. While, in terms of phonological awareness, none or 0% is in the beginning level, three or 4.3% are on the developing level, and 66 or 95.7% are on the consistent level.

Table 4. Level of Pre-reading Skills of the Kindergarten Learners

Skills Level	Letter Knowledge		Phonological Awareness	
	n	%	n	%
Beginning Level	0	0	0	0
Developing Level	9	13.0	3	4.3
Consistent Level	60	87.0	66	95.7
Total	**69**	**100.0**	**69**	**100.0**

Further, the results show that most of the kindergarten learners are on the consistent level in their pre-reading skills in terms of letter knowledge, and phonological awareness.

Adding on, upon observing these kindergarten learners, most of them were able to develop the fundamental knowledge and skills and core understandings of the concepts and can do the tasks independently. They could already identify both capital and lowercase letters and know the letter names, as well as recognize and work with sounds in spoken language.

The result is in affirmation with the findings of the study of Laura (2021) who accentuated that when young children are taught with the basics in learning how to read in an environment which promote reading, then, eventually, they shall learn how to love it. As such, the development of the pre-reading skills is facilitated until a desirable level is reached which could be a great advantage in order for the learners to succeed in their academic journey.

Adding on, the finding is in agreement with the results of the study of Azizifar (2020) who explicated that the reading experiences of the learners significantly contribute to the development of their pre-reading skills. More so, when opportunities such as identifying words grouped in phrases or sentences are provided to them, then would be able to progress in their pre-reading skills and eventually reached the level where they could already do the reading tasks independently.

Level of Numeracy Skills of the Kindergarten Learners

Table 5 presents the level of numeracy skills of the kindergarten learners in terms of number knowledge, number representation, and basic operations on addition and subtraction.

Table 5. Level of Numeracy Skills of the Kindergarten Learners

Skills Level	Number Knowledge		Number Representation		Basic Operation	
	n	%	n	%	n	%
Beginning Level	9	13.0	2	2.9	7	10.1

Developing Level	9	13.0	2	2.9	21	30.4
Consistent Level	51	73.9	65	94.2	41	59.4
Total	**69**	**100.0**	**69**	**100.0**	**69**	**100.0**

In terms of number knowledge, nine or 13.0% are in the beginning level, nine or 13.0% are on the developing level, and 51 or 73.9% are on the consistent level. While, in terms of number representation, two or 2.9% are in the beginning level, two or 2.9% are on the developing level, and 65 or 94.2% are on the consistent level. On the other hand, in terms of basic operations on addition and subtraction, seven or 10.1% are in the beginning level, 21 or 30.4% are on the developing level, and 41 or 59.4% are on the consistent level.

Further, the results show that most of the kindergarten learners are on the consistent level in their numeracy skills in terms of number knowledge, number representation, and basic operations on addition and subtraction. This means that the kindergarten learners were able to develop the fundamental knowledge and skills and core understandings of the concepts and can do the tasks independently.

Additionally, most of the kindergarten learners in the locale could already count with understanding and identify "how many" in sets of objects, match a number with a quantity, and do simple addition and subtraction activities independently. This also suggests that teaching kids' further ideas is not too difficult because they already understand the basics.

The result shows consistency with the study of Smith (2021) who revealed that when students understand of what meant when a number is equal to or more than or less than another number, then the development of their numeracy skills is facilitated. Likewise, learners' numeracy skills are said to be in the desirable level when they could already understand simple relational statements such as what is lesser or greater when a number is compared with the other.

More so, the result affirms the study of Aunio and Niemivirta (2020) who found out that the ability of the students to develop their numeracy skills depends on their ability to practice number skills. In view of this, they should be given learning opportunities where they could develop their understanding on cardinality and ordinality of numbers, as these are deemed necessary in order to reach the desirable level where they could already do numeracy tasks independently.

Test of Significant Relationship between Parent-Assisted Early Literacy Practices in Reading and Pre-Reading Skills of Kindergarten Learners

The result of the correlation analysis between the parent-assisted early literacy practices in reading and the level of pre-reading skills in terms of letter knowledge and phonological awareness of the kindergarten learners is shown in Table 6.

Table 6. Correlation Analysis between Parent-Assisted Early Literacy Practices in Reading and Pre-reading Skills of the Kindergarten Learners

	Letter Knowledge	**Phonological Awareness**
Correlation coefficient	.226	.311**
p-value	.062	.009
Decision on H_o	Do not reject H_o	Reject H_o
Interpretation	Not significant	Significant

***significant @ p<.01*

The parent-assisted early literacy practices in reading showed significant relationship with pre-reading skills of kindergarten learners in terms of phonological awareness (ρ=.311;

p=.009). Thus, the null hypothesis is rejected with respect to these variables. This means that as the parent-assisted early literacy practices in reading become more frequent, there is a strong tendency for the learners to acquire the needed skills in phonological awareness.

The results imply that by doing various related reading activities at home, children would be able to develop love for reading which is found essential in their academic journey in school. Likewise, children would be able to acquire the needed skills in reading when various reading experiences are constantly made available to them. On the other hand, it would be difficult for young children to read if they are unable to recognize sound in spoken language which is found to be very essential in acquiring the needed pre-reading skills.

The result is in accordance with the statement of Kamil et al. (2021) who accentuated that phonological awareness is acquired when essential reading activities are provided until the desired level is achieved. With this being considered, parents should conduct related reading activities at home to provide the necessary support to their children as they progress in learning to read. Additionally, the result agrees with the study of Barshay et al. (2021) who disclosed that an increasing number of young children struggle with reading. This happens because their parents fail to provide them with related reading activities at home.

On the other hand, the analysis reveals that there is no significant relationship between the parent-assisted early literacy practices in reading and the development of the letter knowledge of the learners (ρ=.311; p=.009). This is evidenced by the p-value that is beyond the .05 level of significance set for analysis. It could be surmised that the parents may have fewer encounters with their children along this letter knowledge development practices.

The results indicate that when young children fail to identify both capital and lowercase letters and know the letter names, they find it difficult to read, since these are considered essential requisite to develop pre-reading skills. However, this could happen when parent-assisted early literacy practices in reading at home are not provided. Consequently, young children find it difficult to progress and achieve the desired level of pre-reading skills as they struggle in developing their letter knowledge.

The result negates the findings of the study of Shea and Roberts (2022) who divulged that most of the kindergarten learners scored low in reading indicating difficulty in using reading as a tool for learning because their parents fail to provide them with related reading activities at home. However, the result agrees the study of Barron (2019) who unconcealed that although parents make intensive efforts in providing their children with reading activities at home aimed at developing their knowledge on letter-name, their children's scores in reading activities remain low.

Test of Significant Relationship between Parent-Assisted Early Literacy Practices in Numeracy and Numeracy Skills of Kindergarten Learners

Table 7 shows the result of the correlation analysis between the parent-assisted early numeracy practices and the numeracy skills in terms of number knowledge, number representation and basic operation on addition and subtraction of the kindergarten learners.

Table 7. Correlation Analysis between Parent-assisted Early Literacy Practices in Numeracy and Numeracy Skills of the Kindergarten Learners

	Number Knowledge	**Number Representation**	**Basic Operation**
Correlation coefficient	.532**	.326**	.468**
p-value	.000	.006	.000
Decision on H_o	Reject H_o	Reject H_o	Reject H_o
Interpretation	Significant	Significant	Significant

***significant @ p<.01*

The numeracy development practices at home show significant relationship with number knowledge (ρ=.532; p=.000); number representation (ρ=.326; p=.006); and basic operation (ρ=.468; p=.000). Thus, the null hypothesis is rejected. This means that the more frequent the parents do their early numeracy practices with their children at home, the greater is the tendency for the learners to develop the required numeracy skills in school.

The results imply that the development of numeracy skills among young children greatly depends on the numeracy development practices at home. When parents are able to provide their children with meaningful learning experiences at home aimed at developing their numeracy skills, then, the greater the chance that their children would be able to progress on the desired level. However, when learning experiences at home do not support the development of numeracy skills, then their children will find academic learning in school difficult and tiresome since numeracy skills are found essential in young children's academic journey.

The result is parallel to the findings of the study of Krajewski and Schneider (2019) who elaborated that the core of mathematics development in early childhood is teaching the young children how to operate with numbers. As such, parents play a crucial role in providing numeracy related activities at home in order to facilitate the achievement of such skills. Likewise, the result shows consistency with the study of Aunio and Niemivirta (2020 who expounded that children's ability on numbers greatly depends on the early numeracy skills development practices provided to them by their parents' home. With this being considered, parents should provide numeracy-related learning activities at home, and by doing so, their children shall progress to the desired level and be able to find their learning journey in school as an enjoyable experience.

Proposed Intervention Program for the Kindergarten Parents/Guardians

The results of the study revealed that parent-assisted early literacy practices on reading and numeracy are significantly correlated with the pre-reading and numeracy skills of kindergarten learners. Based on this finding, the researcher proposed the following intervention program to address the parent-assisted early literacy practices in terms of reading and numeracy for kindergarten learners.

Program Objective: To strengthen the early reading and numeracy practices of parents at home.

Expected Output: Improved performance of kindergarten learners on pre-reading in terms of letter knowledge and phonological awareness, and numeracy in terms number knowledge, number representation, and basic operation on addition and subtraction.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn:

Parents provided adequate reading-related activities and practices for their kindergarten children at home. These activities include reading stories, noticing pictures in the story, and teaching how to make letter sounds which were found essential to develop the pre-reading skills of kindergarten learners. While numeracy-related activities and practices provided by the parents at home to their kindergarten children are more than adequate. These practices include letting their children count their steps while walking and the task is done repeatedly until their children know how to count.

Kindergarten learners were able to develop the fundamental knowledge and skills and core understandings of the concepts and can do the tasks related to reading independently. Thus, kindergarten learners can identify both capital and lowercase letters, know the letter names, and recognized and worked with sounds in spoken language as well.

Most of them were able to develop the fundamental knowledge and skills and core understandings of the concepts and can do the tasks related to numeracy independently. Hence, kindergarten learners can count with understanding, identify "how many" in sets of objects, match a number with a quantity, and do simple addition and subtraction activities as well.

There is a strong tendency for the learners to acquire the needed skills in phonological awareness when parent-assisted early literacy practices in reading become more frequent. Therefore, when varied reading activities were made available for kindergarten learners, then they progress in acquiring the desired level of competence in reading.

The more frequent the parents do their early numeracy practices with their children at home, the greater is the tendency for the learners to develop the required numeracy skills in school. Likewise, an improved kindergarten learner's ability to use, interpret and communicate mathematical information depend on the parents carry out their numeracy-related activities at home.

An intervention program is needed for the parents and guardians of kindergarten learners enabling them to provide early literacy and numeracy practices for their children needed to progress on their pre-reading and numeracy skills.

Recommendations

In the light of the findings and conclusions drawn, the researcher offers the following recommendations:

Although adequate reading and numeracy related activities and practices for kindergarten learners were provided at home, collaboration and partnership among members of the school community may be strengthened to amplify the existing practices and activities. They may work together in progress by identifying areas of strength, and areas that need to be developed as far as parents' practices and activities on reading and numeracy at home are concerned.

Considering that significant relationship existed between parent-assisted early literacy practices and pre-reading skills of kindergarten learners, and between parent-assisted early literacy practices and numeracy skills of kindergarten learners, parents may continually and sustainably respond to the needs of their kindergarten learners on reading and numeracy at home by using play-based activities that allow their kindergarten learners to have repeated exposures to manipulatives, allowing their children to build confidence, develop creativity, and learn the necessary skills, at their early age.

Future researchers may utilize the results of the study as additional literature and reference in pursuing further studies/researches. They may also use the findings as basis for future related research endeavors. Also, it is recommended that the study may be conducted in other geographic locations, with different groups of respondents, norms or criteria. As such, the validity and consistency of the findings and results will further be verified and substantiated.

The intervention program may be used by the educational institutions with kindergarten curriculum to help their parents and guardians with kindergarten learners to provide the much-needed early literacy and numeracy practices for their kindergarten learners at home, resulting to an improved reading and numeracy skills among their children. However, careful considerations on the contexts of the school, parents or guardians, and learners must be done to implement the program effectively. Finally, sustainable monitoring and evaluation strategies may be implemented as bases for revisions and improvement as the case may be.

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