International Journal of
Science, Architecture, Technology and Environment

Informal Mathematics Activities and Incidental Numeracy Acquisition: Basis for a Training Program

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DOI: https://doi.org/10.63680/ijsate112625.26

Abstract

This study explored how parents supported their kindergarten children's incidental numeracy acquisition through informal mathematics activities at home. A phenomenological research design was used to describe the experiences of ten purposively selected parents. Data were gathered through individual interviews using a researcher-made interview guide. Responses were analyzed, coded, and grouped into themes based on the research questions. The findin gs revealed themes related to parents' informal mathematics activities at home, incidental numeracy skills, challenges encountered by parents, and the proposed training program. For parents informal mathematics activities included hands-on learning, numeracy in daily activities, numeracy through household responsibilities, play, sorting, counting, food preparation, and shopping. On incidental numeracy skills observed by parents included counting and quantity awareness, sorting and quantity comparison, practical application of numeracy, independence in counting and self-confidence, and quantity checking skills. For challenges encountered by parents included limited time for home mathematics activities, difficulty maintaining children's interest in learning activities,difficulty balancing household, responsibilities and learning support, need for strategies to support numeracy learning, and difficulty explaining basic numeracy concepts.Parents addressed these challenges by showing patience, repeating instructions, using familiar objects, and adjusting activities to their children's needs.The study propose NUMBER-IN-ACTION Parent Training Program was proposed to help parents use simple and practical activities to support children's incidental numeracy acquisition. The study concluded that informal mathematics activities provided opportunities for kindergarten children to develop numeracy skills through parental guidance and support. Parents were encouraged to incorporate familiar materials and daily routines into home learning while considering children's interests, abilities, and learning needs. It encouraged consistent practice at home.

Keywords: Informal Mathematics Activities, Incidental Numeracy Acquisition, Home Numeracy, Parent Training Program

Introduction

Parents play an important role in the early learning and development of their children. As children's first teachers, they can help develop basic numeracy skills through simple activities at home. Numeracy

includes recognizing numbers, counting, comparing quantities, and understanding basic mathematical concepts. These skills can be practiced through everyday experiences such as playing, preparing food, sorting objects, and shopping. Such activities provide opportunities for children to encounter mathematical ideas in familiar situations (Cahoon et al., 2024). Parents can also encourage children to think about numbers by asking simple questions, such as how many objects they have or which group has more items. Eason et al. (2021) found that parents' number-related prompts during pretend play were associated with children's use of number words and longer conversations about numbers. These findings suggest that ordinary home activities can provide opportunities for parents to support children's early numeracy development.

At the global level, studies have examined the relationship between the home mathematics environment and children's numeracy development. Daucourt et al. (2021) found that the relationship between the home mathematics environment and children's mathematics achievement was positive but small. This suggests that although the home environment is relevant to children's learning, further exploration is needed to understand how everyday activities and parent–child interactions support numeracy development. Exploring parents' experiences may also provide insights into the activities they use and the challenges they encounter when helping their children learn mathematical concepts at home.

In the Philippines, Caliente and Galendez (2026) examined the relationship between the home environment, home-based learning activities, and kindergarten learners' numeracy skills. Their study contributed to understanding the role of home learning in early numeracy development. Further qualitative exploration can provide additional insights into parents' experiences, particularly the household activities they use, the numeracy skills they observe in their children, and the challenges they face when guiding learning at home. Understanding these experiences may help identify practical ways to incorporate numeracy learning into Filipino families' daily routines.

In the Caraga Region, connecting local knowledge and everyday experiences with mathematics education is relevant to developing learning approaches suited to children's contexts. Adaro and Roble (2025), in their systematic review of Philippine ethnomathematics research, highlighted the need for stronger empirical evaluation of educational outcomes. Although their review covered Philippine ethnomathematics research more broadly, it provides a basis for further exploring how mathematical experiences outside formal instruction may support learning. In this study, the focus was on parents' everyday household activities, the numeracy skills they observed in their children, and the challenges they encountered in supporting learning at home. The findings may provide locally relevant information for developing a parent training program suited to the needs of families in the study setting.

At Maibu Elementary School in Butuan City, this study explored how parents of kindergarten learners supported numeracy development through everyday activities at home. It specifically examined the informal mathematics activities parents commonly used, the numeracy skills they observed in their children, and the challenges they encountered in guiding learning. These experiences provided a basis for identifying practical strategies that parents could use to make daily routines meaningful opportunities for numeracy learning.

Everyday household activities can provide children with opportunities to practice numeracy using familiar objects and routines. With appropriate guidance, parents can help children count, compare quantities, recognize numbers, and develop their understanding of basic mathematical concepts. A parent training program may help parents recognize these learning opportunities and use simple strategies appropriate to their children's level of understanding.

Therefore, this study, entitled "Informal Mathematics Activities and Incidental Numeracy Acquisition of Skills: Basis for a Training Program," aimed to explore the experiences of parents of kindergarten learners at Maibu Elementary School in Butuan City during School Year 2026–2027. Using a phenomenological research design, the study examined the informal mathematics activities parents commonly used, the numeracy skills they observed in their children, and the challenges they encountered in supporting learning at home. The

findings served as the basis for developing a proposed parent training program, which was evaluated by experts in terms of relevance, clarity, usefulness, and feasibility.

Review of Related Studies

This section presents literature and studies related to informal mathematics activities and incidental numeracy skill acquisition among kindergarten learners. It focuses on the major areas of the study's conceptual framework, particularly informal mathematics activities at home, incidental numeracy skill acquisition, and challenges experienced by parents.

Parents can help children experience mathematics through simple activities at home. Mathematics does not always have to be taught through formal lessons or worksheets. Children can learn about numbers and quantities while counting toys, sorting things, comparing objects, playing games, helping with cooking, or going shopping with their parents. Dowker (2021) explained that the home numeracy environment includes both formal and informal activities that can support young children's mathematical development.

Many informal mathematics activities can be part of the family's normal daily routine. Parents can use things that are already available at home, such as food, toys, utensils, clothes, and other household items. These materials can be used for counting, sorting, comparing, and identifying quantities. Elliott and Bachman (2023) found that different types of home numeracy activities, including number-related play and the use of learning materials, can provide children with opportunities to experience mathematics at home.

Recent studies also show that everyday activities can help children become more aware of numbers and quantities. A 2024 study found that home numeracy activities were related to preschool children's attention to quantities. This suggests that simple activities at home can encourage children to notice and think about mathematics even when parents are not formally teaching it. A 2025 Philippine study also examined home numeracy practices and their connection to preschool children's mathematical development.

Incidental numeracy skill acquisition happens when children develop or practice numeracy skills while doing activities that are not planned as formal mathematics lessons. For example, children may practice counting while arranging toys, compare quantities while sharing food, recognize numbers on calendars or price tags, or sort objects while helping at home. Through these simple experiences, children can encounter mathematics naturally.

Elliott and Bachman (2023) found that play-based number activities were related to children's ability to solve applied mathematics problems. However, they also found that different types of home numeracy activities may relate to different mathematical skills. This shows that the type of activity and the way children experience it are important when looking at mathematics learning at home.

Pan et al. (2023) also found that both formal and informal mathematics experiences at home were related to young children's mathematical abilities. Their findings show that children can develop mathematical understanding through activities that are part of their everyday lives. Recent research in the Philippines also highlights the importance of home numeracy practices and the home environment in supporting children's early mathematical development.

Although everyday activities can provide opportunities for mathematics learning, parents may still face challenges. Some parents may not realize that simple activities such as cooking, shopping, playing, or doing household chores can become opportunities for learning mathematics. Others may not be sure how to guide their children when they have difficulty understanding numbers, quantities, or other mathematical ideas.

Parents may also have different levels of confidence and comfort when dealing with mathematics. Dowker (2021) explained that parents' attitudes and feelings toward mathematics are also part of the home numeracy environment. Parents' own experiences with mathematics may therefore affect how they interact with their children during mathematics-related activities.

Recent studies suggest that parents can benefit from simple and practical support. Napoli et al. (2025) found that a short parent-focused intervention increased direct numeracy activities at home and was associated with better early numeracy skills among preschool children. This suggests that parents may benefit from guidance on how to recognize and use everyday activities as opportunities for mathematics learning.

A parent training program can help parents recognize the mathematics that is already present in their everyday activities. The program may include simple activities involving counting, number recognition, sorting, comparing quantities, patterns, and simple addition. Parents can learn how to use toys, food, household objects, and other available materials to help children practice basic numeracy skills at home. Nelson et al. (2024) found that mathematics interventions involving caregivers and children in informal learning environments had positive overall effects on children's mathematics achievement.

The training program can also teach parents how to include mathematics in daily activities such as cooking, shopping, eating, cleaning, and playing. Instead of requiring expensive materials or long study sessions, parents can learn simple ways to turn ordinary activities into learning opportunities. Napoli et al. (2025) found that a text message-based home numeracy intervention was associated with increased numeracy activities among families and improvements in children's early numeracy skills. These findings support the use of practical strategies that parents can apply in their daily routines.

In the Philippine setting, Pradilla et al. (2025) examined home numeracy practices and preschoolers' mathematical development. Although their study found no significant relationship between home numeracy experiences and children's numeracy skills, it highlighted the need to encourage meaningful numeracy activities at home. Caliente and Galendez (2026) also examined the relationship between the home environment, home-based learning activities, and kindergarten learners' numeracy skills in Cagayan de Oro City. These studies provide relevant background for understanding home numeracy in the Philippine context. Based on the findings of the present study, the proposed NUMBER-IN-ACTION Parent Training Program will focus on the actual activities, observed numeracy skills, and challenges experienced by the participating parents.

Theoretical/Conceptual Framework

This study is anchored on Vygotsky's Sociocultural Theory and the Home Numeracy Model. These perspectives explain how children may develop numeracy skills through interactions with parents and everyday experiences at home. Vygotsky's theory emphasizes the importance of guidance and social interaction, while the Home Numeracy Model focuses on mathematics-related activities in the home environment. Recent studies also highlight the role of parental beliefs and home numeracy activities in children's early mathematical development (Dowker, 2021; Elliott et al., 2023; Mues et al., 2022).

Vygotsky's Sociocultural Theory explains that children learn through interactions with other people and their environment. Parents can support learning by demonstrating activities, asking questions, and guiding children as they develop new skills. One important concept in this theory is the Zone of Proximal Development, which refers to what children can accomplish with assistance compared with what they can do independently.

In everyday situations, parents may help children count toys, identify numbers, or compare quantities. For example, a parent may demonstrate how to count pieces of fruit and then encourage the child to count independently. Through these interactions, children can practice mathematical concepts while participating in familiar activities. Parents can adjust their guidance according to their children's abilities and needs. They can gradually reduce their assistance as children become more confident in performing activities on their own. These experiences may help children develop a better understanding of numbers and quantities through practical learning.

This theory is relevant to the present study because it helps explain how parents guide their children's numeracy learning at home. It will guide the exploration of the activities parents use, the numeracy skills they observe, and the challenges they encounter when helping their children learn. It also emphasizes that learning can occur even without formal teaching sessions. Parents' conversations and daily interactions may provide meaningful opportunities for children to practice numeracy. These ideas can help identify practical ways to support parents in guiding their children's early mathematical learning.

The Home Numeracy Model explains how mathematics-related experiences at home may contribute to children's early numeracy development. These experiences may include formal activities, such as number exercises, and informal activities, such as counting household objects, sorting toys, preparing food, and comparing quantities while shopping.

Informal mathematics activities allow children to encounter numbers and mathematical concepts during their daily routines. Parents do not always need special learning materials because familiar household objects can provide opportunities to practice counting, sorting, and comparing. However, the activities and the ways parents involve their children may differ from one household to another. For instance, children may count spoons while setting the table or compare the number of items placed in two containers. Such activities allow children to connect mathematical ideas with real-life situations. The frequency and type of activities may also depend on parents' time, resources, and confidence in supporting their children's learning.

Recent research supports the importance of examining the different types of activities and parental experiences within the home numeracy environment. Dowker (2021) emphasized the relevance of parents' attitudes and emotions toward mathematics, while Mues et al. (2022) examined associations among parental mathematical beliefs, home numeracy activities, and children's numeracy competencies. Elliott et al. (2023) also examined different dimensions of number activities in early childhood. These studies support the need to understand how parents include mathematics in everyday family life.

The Home Numeracy Model is relevant to this study because it provides a basis for identifying the informal mathematics activities parents commonly practice at home and the numeracy skills they observe in their children. It also helps frame the challenges parents experience in providing opportunities for numeracy learning. Understanding these experiences can reveal which activities parents find easy to incorporate into daily routines. It can also identify areas where parents need additional knowledge or practical guidance. These findings
may help ensure that the proposed training program responds to the actual needs and experiences of parents.

Vygotsky's Sociocultural Theory and the Home Numeracy Model complement each other in explaining how everyday activities and parent-child interactions may provide opportunities for numeracy learning. The first emphasizes the guidance parents provide, while the second focuses on the mathematics-related activities children experience at home.

These theories will guide the study in exploring the informal mathematics activities parents use, the numeracy skills they observe in their kindergarten children, and the challenges they encounter. The findings will serve as the basis for developing a proposed training program for parents of kindergarten learners at Maibu Elementary School, Butuan City. The program may provide practical suggestions for incorporating counting, sorting, and comparing quantities into daily routines using familiar household materials. It may also help parents recognize the learning opportunities already present in their everyday activities. The proposed program can offer simple strategies that parents can adapt to their children's interests and abilities. Through this approach, the study aims to support parents in making numeracy learning more meaningful and manageable at home.

This study explores parents' experiences with informal mathematics activities and how these everyday experiences provide opportunities for kindergarten learners to acquire numeracy skills incidentally. Children may encounter mathematical concepts not only through classroom instruction but also through daily activities

and interactions at home. Recent research highlights the importance of examining home mathematics experiences and their relationship with children's early mathematical development (Dowker, 2021; James-Brabham et al., 2025).

Parents can provide opportunities for numeracy learning through simple activities such as counting objects, sorting household items, comparing quantities, cooking, shopping, and playing games. For example, children may count pieces of fruit, identify the number of plates needed for a meal, or compare quantities of household objects. These activities can help children encounter mathematical concepts in familiar situations (Pan et al., 2023; Elliott et al., 2023).

The study focuses on parents' lived experiences in incorporating or encountering mathematics in everyday activities with their children. It will explore the activities parents commonly use, the interactions they have with their children, the numeracy skills they observe, and the challenges they experience. A phenomenological approach is appropriate because it seeks to understand participants' experiences and the meanings they attach to them (Emiliussen et al., 2021).

The study will examine informal mathematics activities that occur during daily routines and play. These may include counting, recognizing numbers, sorting objects, comparing quantities, and identifying shapes. It will also explore whether parents intentionally teach mathematical concepts or whether these concepts arise naturally during household activities. Research has identified different types of home mathematics activities and their possible relationships with children's developing skills (Elliott et al., 2023; Pan et al., 2023).

Another focus is the numeracy skills parents observe in their children, such as counting objects, identifying numbers, recognizing quantities, and comparing groups. The study will also explore challenges parents encounter, including limited time, lack of learning materials, difficulty maintaining children's attention, and uncertainty about suitable activities. Understanding these experiences may help identify the support parents need to encourage early mathematics learning (Dowker, 2021; Higgins, 2021).

This study draws on Vygotsky's Sociocultural Theory, which emphasizes the importance of social interaction and guidance in learning. Parents may support children by demonstrating how to count, asking questions, and encouraging them to complete activities independently as their skills develop. Research on parent-child numeracy activities highlights the importance of examining the activities and interactions that occur during early mathematics experiences (Trickett et al., 2022; Higgins, 2021).

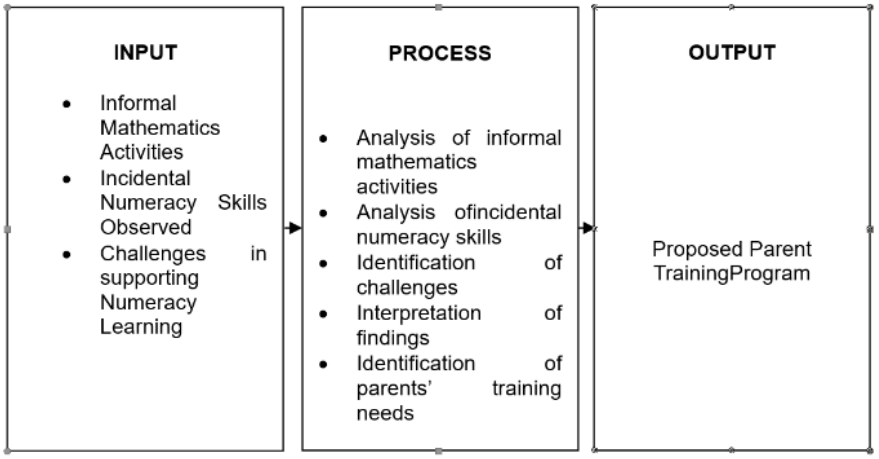
The study is also informed by the Home Numeracy Model, which provides a basis for understanding how children encounter mathematics through activities at home. The emphasis is on informal experiences that occur naturally during play and daily routines. Recent research continues to examine how different home mathematics activities relate to children's early mathematical skills (Dowker, 2021; James-Brabham et al., 2025).

These perspectives will guide the interpretation of parents' experiences rather than serve as variables to be measured. Consistent with the phenomenological design, the study will focus on how parents describe and understand their activities, observations, and challenges. This approach aligns with phenomenological research, which seeks to understand lived experiences and their meanings (Emiliussen et al., 2021).

The findings will serve as the basis for developing a proposed training program for parents of kindergarten learners at Maibu Elementary School, Butuan City. The program may include practical activities such as counting household objects, sorting toys, comparing quantities, and recognizing numbers during shopping. These activities are consistent with research examining home mathematics experiences and parent-supported learning (Pan et al., 2023; Higgins, 2021).

The proposed program will address the participants' needs by suggesting simple activities using available household materials and practical ways to guide children's numeracy learning. Research supports considering parents' experiences when developing support for early mathematics learning (Dowker, 2021; Higgins, 2021)

Figure 1. *The Research Paradigm Showing the Flow of the Study*



Objectives of the Study

This study aimed to explore the experiences of parents regarding informal mathematics activities and the incidental development of numeracy skills among kindergarten learners at Maibu Elementary School as a basis for designing a parent training program. Specifically, it sought to: (1) identify the informal mathematics activities commonly undertaken by parents with their kindergarten children at home; (2) describe the incidental numeracy skills that parents observe their kindergarten children developing through informal mathematics activities at home; (3) determine the challenges encountered by parents in providing opportunities for mathematics learning at home; and (4) propose a parent training program based on the findings of the study to strengthen parents' capacity to facilitate informal mathematics activities and support the development of numeracy skills among kindergarten learners.

Methodology

This study employed a qualitative phenomenological research design to explore the lived experiences of parents regarding informal mathematics activities and the incidental development of numeracy skills among kindergarten learners. It was conducted at Maibu Elementary School during School Year 2026–2027, involving ten parent-participants selected through purposive sampling. Data were gathered using a researcher-made semi-structured interview guide containing open-ended questions aligned with the objectives of the study. Following the necessary administrative approvals and informed consent, individual interviews were conducted to explore parents' informal mathematics practices, observed numeracy skills among their children, and challenges encountered in facilitating mathematics learning at home. The interviews were audio-recorded with permission, transcribed, and analyzed using thematic analysis, involving familiarization, coding, categorization, and identification of emerging themes. The findings served as the basis for proposing a Parent Training Program aimed at strengthening parents' capacity to support the incidental development of numeracy skills among kindergarten learners through everyday home activities.

Results and Discussion

Problem 1. What informal mathematics activities do parents commonly engage in with their kindergarten children at home?

Table 1 presents the thematic analysis of the parents' informal mathematics activities at home

Table 1. The Parents' Informal Mathematics Activities at Home

Participants	Codes	Categories	Themes	Interpretation
P1, P2, P3, P4, P5, P6, P7, P8, P9, P10	Counting toys; Using household objects; Counting food and school supplies	Use of familiar materials	**Hands-on Numeracy Learning**	Parents used available household objects to help children practice counting and sorting. This supported Cahoon et al. (2024), who emphasized everyday experiences in early mathematics learning.
P1, P2, P3, P6, P8, P9, P10	Counting plates and utensils; Shopping; Organizing school supplies	Numeracy in daily routines	**Numeracy in Daily Activities**	Parents incorporated counting into daily routines, allowing children to practice mathematics in familiar situations. This was consistent with Leyva et al. (2023), who highlighted the importance of everyday interactions in numeracy development.
P2, P3, P6, P9, P10	Sorting clothes; Arranging plates; Checking school supplies	Learning through household tasks	**Numeracy Through Household Responsibilities**	Parents involved children in household tasks where they practiced counting and grouping objects. This supported Eason et al. (2021), who recognized everyday experiences as opportunities for early mathematics learning.
P1, P4, P7, P9	Counting toys; Sorting by color; Grouping objects; Comparing quantities	Play-based learning	**Learning Mathematics Through Play, Sorting, and Counting**	Parents used play activities to make counting, sorting, and comparing enjoyable for children. This was consistent with Trickett et al. (2022), who emphasized play in early mathematical learning.
P3, P5, P8	Counting fruits and eggs; Separating food items; Counting purchase	Practical mathematics activities	**Learning Through Food Preparation and Shopping**	Parents used food preparation and shopping to develop children's counting skills. This supported Elliott et al. (2023), who highlighted the value of everyday experiences in mathematics learning.

Theme 1: Hands-on Numeracy Learning

The participants' responses showed that parents used toys, kitchen utensils, blocks, and other household objects to help their children learn basic numeracy skills. These materials allowed children to practice counting, sorting, and comparing quantities through simple activities at home. The responses also showed that parents did not need to buy expensive educational materials because ordinary household items could be used for learning. Elliott et al. (2023) found that number-related play was associated with children's applied

mathematical problem-solving, although the relationship differed across mathematical skills. Participant 1 shared:

> *Kasagaran, iyang mga dulaan ra gyud, sama sa sakyanan, bola, ug blocks. Usahay, mogamit pud mi og mga kutsara, plato, ug lapis nga naa sa balay. Dili kinahanglan mopalit og bag-ong materyales kay daghan man og butang sa balay nga mahimong gamiton sa pagkat-on.*
>
> *(Usually, we use the child's toys, such as toy cars, balls, and blocks. Sometimes, we also use spoons, plates, and pencils available at home. We do not need to buy new materials because there are many things at home that can be used for learning.)*

The response showed that the parent used available household items to support the child's learning. This indicated that special learning materials were not always necessary to introduce basic mathematical concepts. Toys could be counted, grouped, or compared during play, making numeracy activities more familiar and enjoyable for children. The researcher considered this finding important because it showed that the quality of learning depended not only on the materials available but also on how parents used them to guide their children. When parents encouraged children to count and compare familiar objects, ordinary play could become an opportunity to develop basic numeracy skills. This finding was consistent with Elliott et al. (2023), who examined number-related play as part of the home numeracy environment.Participant 6 shared:

> *Mga kutsara, plato, baso, sudlanan, ug uban pang gamit sa kusina ang among gamiton. Dili na kinahanglan og espesyal nga materyales kay ang among mga gamit sa balay igo na aron makapraktis siya sa pag-ihap ug paghan-ay.*
>
> *(We use spoons, plates, glasses, containers, and other kitchen items. Special materials are not necessary because the things we have at home are enough for the child to practice counting and sorting.)*

This response further showed that learning opportunities were available in the children's everyday surroundings. Kitchen items could be counted, grouped according to their types, or compared to see which group had more or fewer objects. These activities allowed children to practice mathematics while becoming familiar with the things they saw at home. The researcher interpreted this finding as an indication that parents could incorporate numeracy activities into their daily routines without setting aside a separate time for formal lessons. However, the materials alone might not be enough. Parents could make the activities more meaningful by asking simple questions, such as "How many spoons are there?" or "Which group has more?" Dowker (2021) discussed the importance of everyday numeracy experiences in the home learning environment. This suggests that parents may benefit from learning simple ways to guide their children during these activities. Participant 4 shared:

> *Kung magdula siya og blocks, akong ipabulag ang pula, asul, ug dalag nga mga bloke. Human niini, akong ipaihap kung pila kabuok ang matag kolor. Usahay, akong ipakompara ang duha ka pundok aron makita niya kung asa ang mas daghan.*
> *(When the child plays with blocks, I ask the child to separate the red, blue, and yellow blocks. After that, I ask the child to count how many there are of each color. Sometimes, I ask the child to compare two groups to see which has more.)*

The response showed that block play provided opportunities for children to practice several numeracy skills in one activity. Separating blocks according to color helped children practice sorting, while counting each group allowed them to become familiar with numbers and quantities. Comparing groups also introduced the concepts of more and fewer. These findings indicated that parents could turn simple playtime into a learning opportunity by giving children small tasks and asking questions. The researcher considered this approach valuable because it encouraged children to explore, think, and answer questions rather than simply memorize numbers. Parents could support this process by asking questions such as, "How many red blocks are there?" or "Which group has fewer blocks?"

Children also needed opportunities to answer questions independently while receiving appropriate guidance from their parents. Rather than immediately providing the correct answers, parents could ask simple questions that encouraged children to observe and think. Elliott et al. (2023) examined number-related play in the home numeracy environment, while Eason et al. (2021) explored how parental prompts could support numerical conversations during play. These studies provided relevant support for including guided play and simple questioning strategies in the proposed Parent Training Program.

The findings showed that parents used ordinary household objects to support their children's numeracy learning. Simple activities, such as counting spoons, sorting blocks, and grouping toys, provided opportunities to introduce basic mathematical concepts through everyday experiences. The responses also highlighted the importance of parental guidance in helping children make sense of numbers and quantities.

Based on these findings, the proposed Parent Training Program should help parents recognize learning opportunities available at home. It should include simple activities using toys, kitchen utensils, and other safe household materials, as well as examples of questions that encourage children to count, sort, and compare objects. These strategies could help parents make everyday activities more meaningful and provide children with regular opportunities to practice numeracy skills using materials already available at home.

Theme 2: Numeracy in Daily Activities

The participants' responses showed that parents included counting in ordinary household activities, such as preparing the table, organizing school supplies, and checking whether enough items were available. These activities allowed children to use numbers for practical purposes rather than only during formal study time. Elliott et al. (2023) examined different types of number activities in the home numeracy environment, showing the importance of considering the kinds of activities children experience at home. Participant 3 shared:

> *Kung upat mi mokaon, akong hangyoon siya nga magbutang og upat ka plato sa lamesa. Iyang ihapon ang mga plato ug usahay iya pa kining susihon kung kompleto ba. Pinaagi niini, magamit niya ang pag-ihap sa usa ka tinuod nga buluhaton.*
> *(When there are four of us eating, I ask the child to put four plates on the table. The child counts the plates and sometimes checks whether they are complete. Through this, the child can use counting in an actual task.)*

The response showed that setting the table could become a simple learning activity. The child counted the plates needed by the family and checked whether there were enough. In this way, counting became useful for completing an actual task. The researcher considered this finding important because children could better understand the purpose of counting when they applied it to familiar situations. Instead of memorizing numbers alone, children could learn how numbers helped them determine the quantity of objects needed to

complete a task. Instead of memorizing numbers alone, they learn that numbers can help them determine how many objects are needed to complete a task

This finding also suggests that parents can support numeracy learning by allowing children to participate in simple household responsibilities. For example, parents can ask their children to count plates, spoons, or drinking glasses before a meal. They can also ask, "How many plates do we need?" or "Do we have enough plates for everyone?" These questions give children opportunities to count and check quantities while interacting with their parents. Eason et al. (2021) examined how parents' prompts could support numerical conversations during play. In a similar way, simple questions during household activities may encourage children to think about numbers and quantities. These activities can be included in the proposed Parent Training Program because they are easy to practice and do not require additional learning materials.Participant 9 shared:

> *Sa dili pa siya moadto sa eskwelahan, akong ipaihap ang iyang mga lapis ug krayola. Iyang ihapon ang matag usa ug ibutang sa iyang bag. Usahay, kung kulang ang iyang lapis, iyang mamatikdan nga gamay ra ang iyang ihap kumpara sa naandan.*
>
> *(Before the child goes to school, I ask the child to count the pencils and crayons. The child counts each item and puts them in the school bag. Sometimes, when there are fewer pencils, the child notices that the number is less than usual.)*

The response showed that preparing school supplies gave the child opportunities to count individual objects and notice changes in quantity. Aside from practicing counting, the child also learned to check whether the necessary items were complete. The researcher viewed this activity as meaningful because it combined numeracy practice with the development of responsibility for personal belongings. It also showed that parents could provide learning opportunities through routines they and their children already followed every day.

The response further suggested that parents could encourage children to check their belongings instead of completing every task for them. For example, parents could ask their children to count pencils, crayons, notebooks, or other school supplies and determine whether anything was missing. These tasks could help children practice counting and comparing quantities in familiar situations. Dowker (2021) discussed the importance of everyday numeracy experiences within the home learning environment. Allowing children to perform simple counting tasks independently, while providing guidance when needed could make daily routines more meaningful. The proposed training program could therefore include activities involving school supplies to demonstrate how numeracy could be practiced during preparation for school.Participant 10 shared:

> *Kung mag-andam mi sa lamesa, akong ipaihap kaniya ang mga plato nga among gikinahanglan. Human niya kini ihapon, iyang ibutang ang mga plato sa lamesa ug susihon kung igo ba ang gidaghanon.*
>
> *(When we prepare the table, I ask the child to count the plates we need. After counting them, the child puts the plates on the table and checks whether the number is enough.)*

The findings showed that setting the table provided a practical opportunity for children to practice counting and checking quantities. This indicated that familiar household routines could introduce numeracy without requiring parents to prepare separate lessons. The researcher considered children's active participation important because it allowed parents to observe their counting skills and provide guidance when needed.

However, these activities needed to remain simple and enjoyable so children could learn at their own pace. Elliott et al. (2023) examined number-related activities in the home numeracy environment, while Eason et al. (2021) explored how parental prompts supported numerical conversations during play.

The findings further revealed that numeracy learning could take place during ordinary routines, such as preparing meals and organizing school supplies. These activities allowed children to apply their understanding of numbers in familiar situations. Dowker (2021) discussed the importance of everyday numeracy experiences within the home learning environment. Based on these findings, the proposed Parent Training Program should include practical examples of counting plates, checking school supplies, sorting personal belongings, and comparing quantities. Parents could also learn to ask simple questions that encouraged children to think and respond independently, making numeracy practice a meaningful part of everyday family life.

Theme 3: Learning Mathematics through Play, Sorting, and Counting

The participants' responses showed that parents used play, sorting, and counting to introduce basic mathematics to their children at home. They described activities such as sorting toys and blocks by color, counting objects, grouping fruits, and comparing which group had more or fewer items. These activities allowed children to practice basic mathematical concepts in simple and enjoyable ways. Elliott et al. (2023) found that number-related play was associated with children's applied mathematical problem-solving skills, although the relationship varied across different mathematics skills. This supports the importance of examining how parents use play and familiar objects to provide opportunities for children to practice numeracy. Participant 7 shared:

> *Para nako, ang mga dula nga naay pag-ihap ug paghan-ay ang labing makatabang kay interesado siya niini. Kung nalingaw ang bata, mas andam siyang maminaw ug mosulay.*
>
> *(For me, games that involve counting and sorting are the most helpful because the child is interested in them. When the child enjoys the activity, the child is more willing to listen and try.)*

The response showed that the parent considered the child's interest when choosing learning activities. The child was more willing to listen and participate when counting and sorting were introduced through games. The researcher considered this important because young children may be more willing to participate when learning activities are connected to things they enjoy. Play can make counting and sorting feel like enjoyable experiences rather than formal lessons.

The findings also suggested that parents could use their children's interests as a starting point for introducing mathematics. For example, if a child enjoyed playing with toy cars, the parent could ask the child to count them, group them by color, or identify which group had more. These simple activities could help children practice numeracy while enjoying their playtime. The researcher believed that parents did not need expensive educational materials to support learning because ordinary toys and household objects could also provide meaningful learning opportunities. Therefore, the proposed Parent Training Program should demonstrate how parents could include simple counting and sorting activities in their children's favorite games without making the activities too difficult or demanding.Participant 4 shared:

> *Kung magdula siya og blocks, akong ipabulag ang pula, asul, ug dalag nga mga bloke. Human niini, akong ipaihap kung pila kabuok ang matag kolor. Usahay, akong ipakompara ang duha ka pundok aron makita niya kung asa ang mas daghan.*

(When the child plays with blocks, I ask the child to separate the red, blue, and yellow blocks. After that, I ask the child to count how many there are of each color. Sometimes, I ask the child to compare two groups to see which has more.)

The response showed that one activity provided opportunities to practice several basic mathematical concepts. Sorting the blocks by color allowed the child to group objects according to their similarities. Counting each group provided practice with numbers and quantities, while comparing the groups introduced the concepts of more and fewer. The researcher observed that the parent did more than allow the child to play with blocks. Simple instructions and questions were added to encourage the child to observe, count, and compare the objects.

This finding suggested that parental guidance could make ordinary play more meaningful for numeracy learning. Parents could ask questions such as, "How many blue blocks are there?" or "Which group has more blocks?" These questions could encourage children to examine the objects and think about their answers. However, the researcher considered it equally important for parents to give children enough time to count and respond independently instead of immediately providing the correct answer. Elliott et al. (2023) reported an association between number-related play and applied mathematical problem-solving, supporting the relevance of including play-based numeracy activities in the proposed training program.Participant 8 shared:

Sa una, akong tabangan siya sa pag-ihap sa mga prutas. Karon, mosulay na siya nga siya ra ang moihap ug mabulag ang mga prutas sumala sa klase. Mas makasabot na pud siya kung parehas ba ang gidaghanon sa duha ka pundok o kung adunay usa nga mas daghan.

(Before, I helped the child count the fruits. Now, the child tries to count independently and separate the fruits according to type. The child also seems to understand better whether two groups have the same number of items or whether one group has more.)

The response suggested that the child had begun counting and sorting with less assistance from the parent and had become more familiar with comparing quantities. Although these observations did not constitute a formal assessment of numeracy skills, they provided insight into the child's participation in everyday mathematics activities. The researcher considered the child's growing independence important because it showed how repeated practice and appropriate guidance could encourage children to perform familiar tasks with less help. Instead of immediately giving the correct answer, parents could encourage children to count again, check the groups, and explain which group had more. Parents should also remain patient and allow children to learn at their own pace. Elliott et al. (2023) highlighted the relevance of number-related play to children's applied mathematical problem-solving skills, supporting the value of giving children opportunities to explore mathematical concepts through familiar activities.

Across the findings, a common pattern emerged: parents used enjoyable activities and familiar objects to help their children practice numeracy. The activities varied according to the children's interests and the materials available at home. The researcher observed that one activity could develop several numeracy skills. For example, sorting fruits by type could be followed by counting each group and comparing quantities, while playing with blocks could involve identifying colors, grouping objects, and determining which group had more or fewer items. These findings suggested that parents could support numeracy learning without preparing separate mathematics lessons or purchasing special materials. Dowker (2021) discussed the value of everyday numeracy experiences, reinforcing the importance of recognizing learning opportunities within children's home routines.

The findings showed that play, sorting, and counting provided practical ways to introduce mathematics at home. These activities allowed children to practice basic numeracy while receiving guidance through simple questions and opportunities for independent exploration. Elliott et al. (2023) found an association between number-related play and applied mathematical problem-solving, supporting the inclusion of play-based activities in the proposed Parent Training Program. Therefore, the program should include simple games, sample questions, and practical demonstrations using readily available materials. Parents could also be guided on how to encourage children to count, sort, and compare quantities while allowing them to answer independently. These strategies could help make numeracy practice a meaningful part of everyday play.

Theme 4: Numeracy through Food Preparation and Shopping

The findings showed that parents used shopping and food-related activities to help their children practice counting, sorting, and comparing quantities. These activities included counting eggs, separating fruits according to type, and counting plates during mealtime. The researcher observed that parents did not need to prepare special lessons to introduce numbers because everyday family activities already provided opportunities for learning. Elliott et al. (2023) examined number-related activities in the home environment and their relationship with children's mathematical learning. This supported the importance of recognizing how ordinary household activities could provide opportunities for children to become familiar with numbers. Participant 5 shared:

> *Pananglitan, kung mopalit mi og lima ka itlog, akong ipaihap ang mga itlog sa dili pa mi mouli. Kung naa mi mga prutas, akong ipabulag ang saging ug mangga. Akong ipangutana kung asa ang mas daghan ug kung pila kabuok ang naa sa matag pundok.*
>
> *(For example, when we buy five eggs, I ask the child to count the eggs before we go home. When we have fruits, I ask the child to separate the bananas and mangoes. I ask which group has more and how many items are in each group.)*

The response showed that shopping could provide a simple opportunity to practice mathematics. Counting eggs allowed the child to connect numbers with actual objects, while separating bananas and mangoes provided practice in sorting and comparing quantities. The researcher considered this meaningful because children could see and touch the objects they were counting, making the activity more concrete and familiar. Parents could use the same approach by asking children to count fruits, group similar items, or identify which group had more. Dowker (2021) discussed the importance of everyday numeracy experiences in the home environment, supporting the value of using familiar objects and routines to introduce mathematical concepts.Participant 3 shared:

> *Kung upat mi mokaon, akong hangyoon siya nga magbutang og upat ka plato sa lamesa. Iyang ihapon ang mga plato ug usahay iya pa kining susihon kung kompleto ba. Pinaagi niini, magamit niya ang pag-ihap sa usa ka tinuod nga buluhaton.*
>
> *(When there are four of us eating, I ask the child to put four plates on the table. The child counts the plates and sometimes checks whether they are complete. Through this, the child can use counting in an actual task.)*

The response showed that setting the table provided an opportunity for the child to practice counting while participating in a simple family responsibility. The child was not only counting plates but also checking whether there were enough for everyone. The researcher considered this useful because it connected counting with a real-life purpose. Similar activities could be done when preparing spoons, glasses, or pieces of fruit for the family. Instead of simply telling children how many items were needed, parents could ask, "How many plates do we need?" or "Do we have enough?" These questions could encourage children to count, check quantities, and think independently. Elliott et al. (2023) and Dowker (2021) supported the relevance of number-related experiences in the home environment, suggesting that parents could integrate numeracy practice into ordinary routines without setting aside a separate time for formal lessons. Participant 8 shared:

> *Sa una, akong tabangan siya sa pag-ihap sa mga prutas. Karon, mosulay na siya nga siya ra ang moihap ug mabulag ang mga prutas sumala sa klase. Mas makasabot na pud siya kung parehas ba ang gidaghanon sa duha ka pundok o kung adunay usa nga mas daghan.*
>
> *(Before, I helped the child count the fruits. Now, the child tries to count independently and separate the fruits according to type. The child also seems to understand better whether two groups have the same number of items or whether one group has more.)*

The response suggested that the child had begun counting and sorting fruits with less assistance and had become more familiar with comparing quantities. Although these were the parents' observations rather than results from a formal assessment, they provided insight into the child's participation in everyday numeracy activities. The researcher considered the gradual development of independence important because it suggested that children could become more confident through repeated practice and appropriate guidance. Parents could initially count fruits with their children and later encourage them to count another group independently. When mistakes occur, parents could offer gentle guidance rather than immediately giving the correct answer. Dowker (2021) discussed the role of home experiences in early numeracy learning, reinforcing the importance of providing children with repeated opportunities to practice through familiar activities.

Across the findings, a common pattern emerged: parents used different household situations to help their children practice similar numeracy skills. Shopping and handling fruits provided opportunities for counting, sorting, and comparing quantities, while setting the table connected counting with family responsibilities. The researcher observed that a single activity could support several skills, depending on how parents involved their children and the questions they asked. This indicated that numeracy learning did not require expensive materials or specially prepared lessons. Instead, parents could use available household items and everyday routines to help children understand numbers and quantities.

The findings showed that food preparation, shopping, and mealtime routines provided practical opportunities for children to develop early numeracy skills. The findings were consistent with Elliott et al. (2023) and Dowker (2021), who discussed the relevance of number-related activities and everyday home experiences to children's mathematical learning. Therefore, the proposed Parent Training Program should include simple examples of numeracy activities involving food, shopping, and mealtime routines. It should also demonstrate how parents could ask helpful questions, provide guidance, and gradually encourage children to participate independently. These activities should remain enjoyableand manageable so that children could practice counting, sorting, and comparing quantities as part of their everyday family experiences.

Theme 5: Repeated Practice and Opportunities for Independent Learning

The findings showed that parents provided opportunities for their children to practice numeracy through regular household activities, such as counting fruits, organizing school supplies, and checking the number of plates needed during mealtime. Some parents also observed that their children were beginning to perform familiar tasks with less assistance. The researcher considered these routines valuable because they allowed children to practice counting and comparing quantities without requiring formal mathematics lessons. However, repeated practice needed to be accompanied by patience and appropriate guidance because children could learn at different rates. Trickett et al. (2022) examined parent-led and child-led home numeracy activities and found that the relationship between these activities and children's numeracy skills was not straightforward. This suggested that the nature of the activities and how children participated in them were also important.Participant 8 shared:

> *Sa una, akong tabangan siya sa pag-ihap sa mga prutas. Karon, mosulay na siya nga siya ra ang moihap ug mabulag ang mga prutas sumala sa klase. Mas makasabot na pud siya kung parehas ba ang gidaghanon sa duha ka pundok o kung adunay usa nga mas daghan.*
>
> *(Before, I helped the child count the fruits. Now, the child tries to count independently and separate the fruits according to type. The child also seems to understand better whether two groups have the same number of items or whether one group has more.)*

The response showed that the child had begun attempting to count and sort fruits with less assistance from the parent. The child also appeared to be becoming more familiar with comparing quantities. The researcher considered the gradual development of independence important because it showed how parents could guide children at first and then provide opportunities for them to try familiar tasks on their own. For example, parents could count fruits with their children before asking them to count another group independently. If mistakes occurred, parents could provide gentle guidance and allow the children to try again. This approach could be included in the proposed Parent Training Program to help parents understand when to assist and when to encourage independent attempts.Participant 9 shared:

> *Sa dili pa siya moadto sa eskwelahan, akong ipaihap ang iyang mga lapis ug krayola. Iyang ihapon ang matag usa ug ibutang sa iyang bag. Usahay, kung kulang ang iyang lapis, iyang mamatikdan nga gamay ra ang iyang ihap kumpara sa naandan."*
>
> *(Before the child goes to school, I ask the child to count the pencils and crayons. The child counts each item and puts them in the school bag. Sometimes, when there are fewer pencils, the child notices that the number is less than usual.)*

The response showed that preparing school supplies provided opportunities for the child to practice counting and notice differences in quantity. By counting pencils and crayons, the child could also check whether the needed items were complete. The researcher considered this activity useful because it combined numeracy practice with a familiar responsibility. Rather than preparing everything for the child, the parent allowed the child to participate in the process. Elliott et al. (2023) examined number-related activities in the home environment and their relationship with children's mathematical learning, while Leyva et al. (2023) discussed family activities and mathematical interactions in early learning. These studies supported the relevance of providing children with opportunities to encounter numbers in everyday situations.

The findings further suggested that parents could make existing routines more meaningful without adding many new activities to their schedules. For example, while preparing school supplies, parents could ask children to count their belongings, check whether they had enough items, or compare the number of items with what they usually brought to school. The researcher believed that these simple interactions could encourage children to think about numbers while completing familiar tasks. However, children might still need reminders and assistance, particularly when learning a new skill. James-Brabham et al. (2025) examined the relationship between home mathematical activities and children's early mathematical skills, highlighting the relevance of investigating how activities at home related to early mathematics learning. Therefore, parents needed to provide opportunities for practice while adjusting their assistance according to their children's needs.Participant 10 shared:

> *Kung mag-andam mi sa lamesa, akong ipaihap kaniya ang mga plato nga among gikinahanglan. Human niya kini ihapon, iyang ibutang ang mga plato sa lamesa ug susihon kung igo ba ang gidaghanon.*
>
> *(When we prepare the table, I ask the child to count the plates we need. After counting them, the child puts the plates on the table and checks whether the number is enough.)*

The response showed that setting the table provided another opportunity for the child to practice counting and checking quantities. Because the activity was part of the family's routine, the child could practice numeracy while helping with a meaningful task. The researcher observed that the activity involved more than counting because the child also checked whether there were enough plates. This demonstrated how a simple household task could provide opportunities to practice different numeracy skills. Parents could use similar activities by asking their children to count plates, spoons, glasses and check whether each family member had what they needed. Huang et al. (2023) discussed parental scaffolding in mathematical activities, which related to providing appropriate guidance to support children's learning. Parents could initially demonstrate the activity, perform it together with the child, and gradually allow the child to try independently. However, guidance should remain available when needed, as mistakes were a normal part of learning and children might require different amounts of practice.

Across the findings, a common pattern emerged: parents used familiar routines to give their children opportunities to practice numeracy. These activities included counting and sorting fruits, organizing school supplies, and counting plates while preparing the table. Although the activities differed, they allowed children to use numbers in practical situations and gradually participate with less assistance. The researcher considered this important because repeated practice could become part of everyday family life rather than being limited to a separate study period. However, the parents' observations were not formal assessments of numeracy improvement. Instead, they provided descriptions of how children participated in these activities and how parents supported their learning.

The findings highlighted the importance of providing children with regular and meaningful opportunities to practice numeracy while allowing them to learn at their own pace. The related literature, including Trickett et al. (2022), Elliott et al. (2023), and Huang et al. (2023), supported examining the role of home activities, children's participation, and parental guidance in early mathematics learning. Based on these findings, the proposed Parent Training Program should help parents identify simple activities that children could practice regularly at home. It should also demonstrate how parents can provide appropriate assistance, encourage independent attempts, and respond patiently when children make mistakes.

The researcher realized that children can learn numeracy through simple activities that are already part of their daily lives. Counting fruits, organizing school supplies, and setting the table may seem like ordinary

household tasks, but these activities give children opportunities to practice counting, comparing quantities, and checking numbers. The researcher also observed that parents do not always need to provide direct assistance throughout the activity. Instead, they can guide their children at first and gradually allow them to perform familiar tasks independently. However, children still need patience, encouragement, and support when they make mistakes or have difficulty understanding a task. These insights suggest that parents can support numeracy learning without adding complicated activities to their daily schedules. Through the proposed NUMBER-IN-ACTION Parent Training Program, parents can learn practical ways to include numeracy in household routines while giving their children enough time and opportunities to practice independently.

Problem 2. What incidental numeracy skills do parents observe their kindergarten children developing through informal mathematics activities at home?

Table 2 presents the thematic analysis of Incidental Numeracy Skills Observed by Parents.

Table 2. Incidental Numeracy Skills Developed by Kindergarten Learners Through Informal Mathematics Activities at Home

Participants	Codes	Categories	Themes	Interpretation
P1, P2, P3, P4, P5, P6, P7, P8, P9, P10	Counting objects; Identifying quantities; Counting with less assistance	Counting and quantity awareness	**Counting and Quantity Awareness**	Parents observed that children became more familiar with counting and identifying quantities. Cahoon et al. (2024) supported the importance of everyday home experiences in children's numeracy learning. This was consistent with Leyva et al. (2023).
P1, P3, P5, P6, P7, P8, P9, P10	Sorting by color; Grouping objects; Identifying more or fewer	Classification and comparison	**Sorting and Quantity Comparison Skills**	Parents observed that children learned to sort objects and compare quantities. This was consistent with Leyva et al. (2023).
P1, P2, P3, P5, P6, P8, P9, P10	Counting household items and school supplies; Using numbers in daily chores and meal preparation	Practical application of numeracy	**Practical Application of Numeracy**	Parents observed that their children applied counting during household tasks, shopping, and meal preparation. This was supported by Elliott et al. (2023), who emphasized the importance of everyday experiences in mathematics learning.
P1, P4, P6, P8, P9, P10	Counting objects independently; Counting with less assistance; Initiating counting without prompts	Independent counting	**Independence in Counting and Self-Confidence**	Parents noticed that children counted more confidently with less assistance. This was consistent with Eason et al. (2021).
P1, P3, P8, P9, P10	Checking totals; Noticing missing items; Checking if there is enough	Quantity checking and evaluation	**Quantity Awareness and Checking Skills**	Parents observed their children checking if there were enough items for a task. This was supported by Trickett et al. (2022).

Theme 1: Counting and Quantity Awareness

The findings revealed that parents observed their children becoming more familiar with counting objects, recognizing numbers, and understanding quantities through everyday activities at home. The activities included counting toys, household materials, and school supplies. Some parents also noticed that their children were beginning to distinguish between larger and smaller quantities and determine whether the number of objects was sufficient for a particular task. These observations suggested that ordinary household activities provided opportunities for children to practice counting and develop quantity awareness. Cahoon et al. (2024) discussed parents' experiences of incorporating mathematics into home activities, while Elliott et al. (2023) examined different aspects of the home numeracy environment and their relationship with young children's mathematical development. Participant 1 explained:

> *Namatikdan nako nga mas naanad na siya sa pag-ihap ug pag-ila sa mga numero. Karon, kung pangutan-on nako kung pila kabuok ang iyang dulaan, mosulay na siya og ihap nga siya ra. Nakakat-on pud siya sa pag-ila kung asa ang daghan ug gamay.*
>
> *(I noticed that the child has become more familiar with counting and recognizing numbers. Now, when I ask how many toys there are, the child tries to count them independently. The child has also learned to identify which group has more or fewer objects.)*

The response showed that the parent observed the child attempting to count toys independently and distinguish between groups with more or fewer objects. These observations suggested that familiar objects provided opportunities for children to practice counting and understand quantities. The researcher considered this important because parents could observe how children approached numeracy during ordinary activities, even without conducting formal assessments. Asking simple questions during play, such as how many toys were present or which group had more objects, could encourage children to connect number words with actual quantities rather than simply memorize numbers.

This finding also suggested that parents could support early numeracy by allowing children to handle objects and answer simple questions during play. The researcher interpreted the child's attempts to count independently as an opportunity for further practice, rather than proof of mastery. Children might still need reminders, repeated demonstrations, or assistance when counting. Parents could therefore encourage children to count slowly, touch each object while counting, and check their answers. Cahoon et al. (2024) and Elliott et al. (2023) provided relevant context for understanding how everyday home experiences and number-related activities could offer opportunities for children to engage with mathematical concepts. These insights could guide the proposed Parent Training Program in showing parents how to use toys and household materials to introduce counting and quantity awareness.

Participant 3 also shared:

> *Namatikdan nako nga mas nakasabot na siya sa gidaghanon sa mga butang. Nakakat-on siya sa pag-ihap ug sa pagkuha sa hustong gidaghanon nga iyang gikinahanglan. Mas makasabot na pud siya kung kulang o sobra ang mga butang nga among gipangandam.*
>
> *(I noticed that the child has developed a better understanding of the quantities of objects. The child has learned to count and get the correct number of objects needed. The child also understands better when the objects we prepare are insufficient or more than what is needed.)*

The response emphasized the child's developing awareness of quantity. Beyond counting individual objects, the child was reportedly beginning to recognize whether the number of objects prepared was insufficient or excessive. The researcher interpreted this as an indication that counting could help children make sense of practical situations involving quantities. For example, parents could ask children to count the plates needed for a meal or check whether enough school supplies were available. These tasks could help children practice counting while understanding the practical use of numbers in daily life.

The researcher further considered quantity comparison an important aspect of early numeracy because children needed opportunities to understand what numbers represented, not only recite them. When parents asked whether there were enough plates or whether more spoons were needed, children could practice counting and comparing the number of available items with the number required. Such activities could also encourage children to explain their answers and check their work. However, the parent's observation should be understood as a description of the child's everyday behavior rather than a formal measure of mathematical ability. This finding supported the inclusion of practical activities in the proposed Parent Training Program, particularly those involving counting,comparing, and checking quantities Participant 9 also shared:

> *Sa dili pa siya moadto sa eskwelahan, akong ipaihap ang iyang mga lapis ug krayola. Iyang ihapon ang matag usa ug ibutang sa iyang bag. Usahay, kung kulang ang iyang lapis, iyang mamatikdan nga gamay ra ang iyang ihap kumpara sa naandan.*
>
> *(Before the child goes to school, I ask the child to count the pencils and crayons. The child counts each item and places them in the school bag. Sometimes, when a pencil is missing, the child notices that the count is lower than usual.)*

The response showed that preparing school supplies provided an opportunity for the child to practice counting and recognize changes in quantity. Counting pencils and crayons helped the child become familiar with numbers, while noticing a missing item suggested an emerging awareness that the number of objects could change. The researcher considered this example meaningful because counting was used not only to identify quantities but also to check whether the necessary materials were complete. This showed how numeracy could be practiced while children performed familiar responsibilities.

The findings also suggested that parents could encourage children to become more responsible for checking their own belongings. Instead of counting all the school supplies for the child, parents could ask the child to count each item and determine whether anything was missing. If the child made a mistake, the parent could ask the child to count again or check the objects one by one. The researcher believed that this approach could provide opportunities to practice counting while developing independence in completing everyday tasks. Eason et al. (2021) examined how parental prompts during play could encourage numerical conversations, supporting the use of simple questions to help children think about numbers and quantities. For the proposed Parent Training Program, parents could be shown how to use familiar objects to practice counting, sorting, and comparing quantities through a single activity.

The findings indicated that counting and quantity awareness was among the numeracy-related behaviors parents observed in their children. These included counting familiar objects, identifying quantities, distinguishing between more and fewer items, and recognizing whether enough objects were available for a task. The researcher considered the practical application of counting an important insight because children could begin to understand the value of numbers when they participated in simple household activities. The findings were consistent with literature examining home mathematics activities and young children's early mathematical experiences (Cahoon et al., 2024; Elliott et al., 2023).

The discussion highlighted that children could encounter counting and quantity awareness in many familiar situations, including playing with toys, preparing household items, and organizing school supplies. The researcher interpreted these examples as evidence of the learning opportunities parents identified in everyday routines, rather than as formal proof that children had mastered particular numeracy skills. Therefore, the proposed Parent Training Program should include practical activities that guide parents in helping children count objects, compare quantities, and check whether the number of items is sufficient for everyday tasks. It should also encourage parents to ask simple questions, provide guidance when necessary, and allow children to practice independently as their confidence develops.

Theme 2: Sorting and Quantity Comparison Skills

The participants' responses revealed that parents observed their children grouping objects according to color or type and comparing the quantities of different groups. They described children sorting household materials, separating similar objects, and identifying which group contained more or fewer items. These activities suggested that parents provided opportunities for children to recognize similarities and differences among objects while becoming familiar with quantity comparison. Such observations indicate that informal activities involving everyday materials provide opportunities to explore basic mathematical relationships. Cahoon et al. (2024) examined how parents used everyday experiences to support mathematics learning at home, while Elliott et al. (2023) investigated number-related activities within the home numeracy environmentParticipant 4 explained:

> *Namatikdan nako nga mas makaihap na siya ug makahan-ay sa mga butang sumala sa kolor. Nakakat-on pud siya sa pagkumpara sa gidaghanon. Mas ganahan na siya mosulay sa pag-ihap kay makita niya ang resulta sa iyang gihimo.*
>
> *(I noticed that the child has become better at counting and arranging objects according to color. The child has also learned to compare quantities. The child is now more willing to try counting because the results of the activity can be seen.)*

The response showed that the parent observed the child arranging objects according to color and comparing quantities. Sorting objects according to a shared characteristic gives children an opportunity to identify similarities and differences. When the child compares groups, the activity can also encourage an understanding of which group has more or fewer objects. These activities illustrate how everyday experiences at home provided opportunities for children to engage with mathematical concepts and develop early numeracy skills (Cahoon et al., 2024; Elliott et al., 2023). What stands out to me is that sorting gives children a visible way to organize objects before comparing how many are in each group.

The participant also noted that the child had become more willing to attempt counting. This suggested that activities involving visible and familiar objects may encourage children to participate because they can directly observe the results of their actions. For instance, separating objects into groups allows children to see how the items are organized and compare the resulting quantities. These experiences helped children engage with mathematical concepts through practical activities in their home environment (Cahoon et al., 2024; Elliott et al., 2023).These observations highlight the connection between classification and quantity comparison in informal mathematics activities. Although sorting by color and comparing quantities involve different mathematical

Parents can use available objects to ask children to group similar items,

count each group, and identify which group contains more or fewer objects. Such parent-child interactions may also provide opportunities for numerical conversations and active participation in early numeracy activities (Eason et al., 2021). This suggested that parents can build on a child's interest by asking one question at a time and allowing enough time for the child to respond.

This finding related to Cahoon et al. (2024), who explored the use of everyday activities and household materials in parents' home mathematics experiences. It also connects with Elliott et al. (2023), whose research considered the different forms of number-related activities children experience at home. These studies provided a basis for understanding how familiar materials and activities may create opportunities for early mathematical exploration.Participant 2 shared:

> *Karon, mas dali na niya mabulag ang mga butang nga parehas og kolor. Kung akong ipaihap ang mga sinina, mosulay siya bisan usahay masayop pa. Mas makasabot na pud siya kung akong ipakita ang duha ka pundok ug pangutan-on kung asa ang mas daghan.*
>
> *(Now, the child can more easily separate objects that have the same color. When I ask the child to count the clothes, the child tries even though mistakes are sometimes made. The child also understands better when I show them two groups and ask which group has more objects.)*

The response reinforces the observation that sorting and quantity comparison were practiced through familiar household materials. The parents described the child's ability to separate objects with similar colors and attempt to count clothes. The parents also used two groups of objects to help the child compare quantities. These examples illustrated how everyday home activities provided opportunities for children to encounter mathematical concepts, including sorting, counting, and comparing quantities (Cahoon et al., 2024; Elliott et al., 2023). I see the child's willingness to try as meaningful, but the parent's mention of mistakes also reminds us not to assume that the skill has been mastered.

The participant acknowledged that the child sometimes made mistakes while counting. This indicated that the child's reported progress did not necessarily mean that the skill had already been mastered. Instead, the response suggested that the child was participating in counting activities and becoming more familiar with comparing quantities through repeated experiences. Parent-child interactions that include prompts and conversations about numbers provided opportunities for young children to practice and develop their early numeracy understanding (Eason et al., 2021). For this reason, parents can treat mistakes as chances to practice again and give gentle prompts instead of rushing to correct every answer.

The use of two groups of objects can make quantity comparison more concrete for young learners. Rather than relying only on verbal explanations, parents can allow children to observe the objects and identify which group appears to contain more or fewer items. This type of activity provides an opportunity to connect visual observation with counting and comparison. Such activities provide opportunities to connect visual observation with counting and comparison in familiar contexts (Cahoon et al., 2024; Elliott et al., 2023). Participant 8 also shared:

> *Sa una, akong tabangan siya sa pag-ihap sa mga prutas. Karon, mosulay na siya nga siya ra ang moihap ug mabulag ang mga prutas sumala sa klase. Mas makasabot na pud siya kung parehas ba ang gidaghanon sa duha ka pundok o kung adunay usa nga mas daghan.*

(Before, I helped the child count the fruits. Now, the child tries to count independently and separate the fruits according to type. The child also understands better whether two groups have the same number of objects or whether one group has more.)

The response showed that fruits were used to practice sorting, counting, and comparing quantities. The parent observed that the child was beginning to count independently, group fruits according to type, and compare the number of items in two groups. These activities provide opportunities for children to explore mathematical concepts using familiar objects at home (Cahoon et al., 2024; Elliott et al., 2023). I find this example especially useful because fruits are familiar, easy to handle, and can be sorted in more than one way.

The deeper insight is that one simple activity helped children practice several numeracy skills at the same time. When children sort fruits, count each group, and compare the results, they learn to organize objects and recognize differences in quantity. Parents supported this learning by asking questions such as, "How many fruits are in this group?" or "Which group has more?" They can also encourage children to count again when they are unsure of their answers. This gives children opportunities to learn through their own actions and helps parents make everyday activities more meaningful. These strategies can be included in the proposed training program to guide parents in supporting numeracy learning at home. The proposed training program can use this example to show parents how one everyday activity can involve several related numeracy skills.

Taken together, the participants' responses suggested that sorting and quantity comparison were observable aspects of children's informal numeracy experiences. Parents described grouping objects by color or type, counting items within groups, and identifying which group contained more or fewer objects. These observations indicated that household materials and simple sorting activities provided opportunities for children to explore classification and quantity relationships. The findings are consistent with research examining everyday home mathematics experiences and the different activities through which young children encounter numerical concepts (Cahoon et al., 2024; Elliott et al., 2023). Overall, the findings suggested that the learning opportunity comes not only from the materials themselves but also from the questions and support parents provide.

Theme 3: Practical Application of Numeracy in Everyday Activities

The findings revealed that parents observed their children using counting and number knowledge during familiar household activities. These included counting food items, plates, and school supplies, as well as helping with meal preparation and organizing belongings. Rather than practicing numbers only during formal study time, children had opportunities to use counting while completing ordinary tasks with their parents. The researcher considered these experiences important because they connected numeracy with practical situations that children could understand. Cahoon et al. (2024) explored parents' experiences of incorporating mathematics into home activities, while Elliott et al. (2023) examined different aspects of the home numeracy environment and their relationships with children's mathematical development.Participant 5 explained:

Pananglitan, kung mopalit mi og lima ka itlog, akong ipaihap kaniya ang mga itlog human mi makapalit. Iyang hikapon ang matag itlog samtang nag-ihap aron dili malibog. Bisan usahay kinahanglan pa siya tabangan, makita nako nga nagsugod na siya sa paggamit sa pag-ihap sa among adlaw-adlaw nga kalihokan.

(For example, when we buy five eggs, I ask the child to count the eggs after we have purchased them. The child touches each egg while counting to avoid confusion. Although

the child sometimes still needs assistance, I can see that the child is beginning to use counting in our daily activities.)

The response showed how the parent included counting in a shopping-related activity. By asking the child to count the eggs after purchasing them, the parent connected number practice with a familiar real-life situation. Touching each egg while counting also provided an opportunity for the child to match each spoken number with one object. The researcher considered this meaningful because the activity allowed the child to practice counting using real objects rather than relying only on spoken numbers. The child's need for assistance also suggested that participation and independence could develop gradually.

The findings further indicated that parents could use familiar household objects to help children practice counting for a specific purpose. Eggs and other food items could be counted to check whether the correct quantity had been purchased or prepared. Eason et al. (2021) examined how parental prompts could support young children's numerical conversations during play, which was relevant to understanding the role of adult guidance in early mathematical experiences. The researcher interpreted this as a reminder that parents could provide support without completing the task for the child. For the proposed Parent Training Program, parents should be shown how to give simple instructions, encourage children to touch and count each object, and allow them to try independently when ready.Participant 9 also shared:

Sa dili pa siya moadto sa eskwelahan, akong ipaihap ang iyang mga lapis ug krayola. Iyang ihapon ang matag usa ug ibutang sa iyang bag. Usahay, kung kulang ang iyang lapis, iyang mamatikdan nga gamay ra ang iyang ihap kumpara sa naandan.

(Before the child goes to school, I ask the child to count the pencils and crayons. The child counts each item and places them in the school bag. Sometimes, when a pencil is missing, the child notices that the count is lower than usual.)

The response highlighted how preparing school supplies provided an opportunity to practice counting and organizing personal belongings. By counting pencils and crayons, the child could check the available items and notice when the number was lower than usual. The researcher considered this useful because it connected numeracy with responsibility and preparation for school. The activity also suggested that counting could serve a practical purpose beyond reciting numbers. Elliott et al. (2023) examined number-related activities within the home environment, providing relevant context for understanding how familiar tasks could offer opportunities for children to engage in mathematics.

The researcher further interpreted this finding as an example of how parents could encourage children to participate in everyday responsibilities. Rather than preparing all the school materials themselves, parents could ask children to count their pencils, crayons, and other supplies and check whether anything was missing. If the count did not match the expected quantity, parents could encourage children to check the items again. However, noticing a lower count did not necessarily mean that the child could identify every missing item correctly. It showed an opportunity to practice comparing quantities and checking belongings. Cahoon et al. (2024) and Elliott et al. (2023) provided relevant context for recognizing everyday home activities as opportunities for mathematical learning.Participant 6 also shared:

Kung magkaon mi, akong ipaihap niya ang mga plato nga among gamiton. Kung tulo mi mokaon, akong pangutan-on kung pila ka plato ang kinahanglan. Usahay, siya na mismo ang mokuha ug tulo ka plato ug moihap aron masiguro nga sakto ang gidaghanon.

(When we eat, I ask the child to count the plates we will use. If there are three of us eating, I ask how many plates we need. Sometimes, the child gets three plates independently and counts them to make sure the number is correct.)

The response illustrated how a simple mealtime routine can provide an opportunity to practice counting. By asking how many plates were needed for three people, the parent encouraged the child to connect the number of people with the quantity of plates required. The researcher considered this activity meaningful because it gave counting a clear purpose and allowed the child to check whether the number of plates was correct. Everyday home activities can provide opportunities for children to explore mathematical concepts and develop early numeracy skills (Cahoon et al., 2024; Elliott et al., 2023).

The findings suggested that parents could support children's numeracy development by involving them in familiar family routines. Instead of simply telling children how many plates to get, parents could ask questions such as, "How many plates do we need?" or "Do we have enough plates for everyone?" The researcher considered these questions helpful because they encouraged children to think, count, and check their answers while allowing parents to observe when guidance was needed. This approach was consistent with Eason et al. (2021), who examined the role of parental prompts in supporting numerical conversations and children's early mathematical learning.

The findings showed that household activities, such as handling food items, organizing school supplies, and preparing the table, provided practical opportunities for children to practice counting and quantity awareness. The researcher interpreted these examples as evidence that numeracy activities could be incorporated into routines that families already followed without requiring separate mathematics lessons. Therefore, the proposed Parent Training Program should include practical activities involving food items, school supplies, and mealtime preparation. It should also guide parents in asking simple numerical questions, helping when necessary, and encouraging children to check their answers independently. These strategies could help parents support children's numeracy development through meaningful and familiar daily experiences (Cahoon et al., 2024; Elliott et al., 2023).

Theme 4: Independence in Counting and Self-Confidence

The participants' responses revealed that some parents observed their children becoming more willing to attempt counting without immediate assistance. They described children counting household objects, organizing items, and performing simple numeracy activities with less parental guidance than before. These observations suggested that repeated participation in familiar activities provided opportunities for children to practice independently and become more confident in attempting tasks. However, some children still needed assistance, indicating that independence developed gradually. Eason et al. (2021) examined parent-child interactions and numerical prompts during play, providing relevant context for understanding how parental involvement supported children's engagement with number-related activities. The researcher interpreted these observations as an indication that allowing children to try familiar tasks, while remaining available to help, could support their developing numeracy skills.Participant 6 explained:

Sa una, kinahanglan pa nako siya tudloan unsaon pag-ihap sa matag butang. Karon, mosulay na siya nga siya ra ang moihap sa mga kutsara o baso. Mas makasabot na pud siya nga ang matag klase sa gamit mahimong ibutang sa kaugalingong pundok.

(Before, I still needed to teach the child how to count each object. Now, the child tries to count the spoons or glasses independently. The child also understands better that each type of household item can be placed in its own group.)

The response showed that the parents observed a change in the child's participation in counting activities. Previously, the parent provided more direct instruction, whereas the child later attempted to count spoons or glasses independently. This suggested that the child had become more willing to perform familiar counting tasks with less immediate assistance. Elliott et al. (2023) examined number-related activities in the home numeracy environment, while Cahoon et al. (2024) explored parents' experiences of incorporating mathematics into everyday home activities. The researcher considered this change meaningful because children could begin by following a parent's demonstration and gradually attempt the same activity with greater independence. Nevertheless, the parent's account represented an observation of the child's behavior rather than formal evidence of mastery.

The participant also reported that the child had become more familiar with grouping household items according to type. This indicated that the child's participation involved more than counting individual objects, as the parent also observed an emerging ability to organize similar materials. The researcher interpreted this example as showing how counting and sorting could be practiced together during ordinary household routines. For instance, parents could ask children to group spoons, glasses, or other household objects before counting each group. Such activities provided opportunities to practice different numeracy skills using familiar materials. The researcher considered this approach practical because parents could incorporate learning into tasks they already performed at home without preparing separate mathematics lessons. Cahoon et al. (2024) and Elliott et al. (2023) provided relevant context for understanding the role of everyday home activities in children's mathematical experiences.

Eason et al. (2021) examined the role of parent-child interactions and numerical prompts in supporting children's numeracy-related conversations during play. This research provided relevant context for understanding how parental guidance could encourage children to engage with numbers. In the present study, the parent's earlier instruction and continued opportunities to count household objects appeared to support the child's willingness to attempt familiar activities independently. The researcher interpreted this finding as an indication that parents could gradually reduce direct assistance as children became more comfortable with a task while continuing to provide help when needed. Participant 8 also shared:

Sa una, akong tabangan siya sa pag-ihap sa mga prutas. Karon, mosulay na siya nga siya ra ang moihap ug mabulag ang mga prutas sumala sa klase. Mas makasabot na pud siya kung parehas ba ang gidaghanon sa duha ka pundok o kung adunay usa nga mas daghan.

(Before, I helped the child count the fruits. Now, the child tries to count independently and separate the fruits according to type. The child also understands better whether two groups have the same number of objects or whether one group has more.)

The response reinforced the observation that some children had begun attempting counting activities with less assistance. The parents described a change from helping the child count fruits to allowing the child to count and separate them according to type. The child was also reported to have become more familiar with comparing the quantities of two groups. Elliott et al. (2023) examined number-related activities in the home numeracy environment, while Cahoon et al. (2024) explored parents' experiences of incorporating mathematics into everyday activities. The researcher interpreted the parent's account as evidence of increased

participation in familiar numeracy activities, while recognizing that the study did not formally measure the child's numeracy progress.

Fruits provided visible and familiar objects that children could count, sort, and compare. During these activities, parents observed how children performed the tasks and helped when necessary. Cahoon et al. (2024) provided relevant context for understanding how ordinary household routines could offer opportunities for children to engage with mathematical concepts. The researcher considered fruit sorting a practical example because one activity allowed children to practice several skills without requiring special learning materials. Parents could begin with a small group of fruits, ask children to separate them according to type, and then count and compare the groups. The number of items could be increased gradually as children became more comfortable with the task.

The response also highlighted the importance of distinguishing between attempting a task independently and completing it correctly every time. Although the child had begun counting and sorting fruits with less assistance, this did not necessarily mean that the child could perform the activities accurately on every occasion. In this study, independence referred to the child's willingness to attempt familiar tasks with less immediate parental assistance. The researcher considered this distinction important because willingness to participate and accuracy were not the same. Parents therefore needed to provide opportunities for children to try independently while recognizing that mistakes and the need for guidance could remain part of the learning process.Participant 7 shared:

> *Karon, kung akong ipaihap ang iyang mga dulaan, mosulay na siya una sa dili pa mangayo og tabang. Usahay masayop siya, pero iyang usbon ang pag-ihap hangtod mahuman niya.*
>
> *(Now, when I ask the child to count toys, the child tries first before asking for help. Sometimes the child makes mistakes, but the child repeats the counting until finishing the task.)*

The response illustrated how the child had become more willing to attempt counting before asking for assistance. Although mistakes still occurred, the child repeated the counting until the task was completed. This behavior suggested continued participation and a willingness to try again, rather than confirmed mastery of counting. Eason et al. (2021) examined parent prompts and children's numeracy-related talk, providing relevant context for understanding how supportive interactions encouraged children to participate in number-related activities. The researcher considered the child's willingness to repeat the task an important observation because learning involved not only arriving at the correct answer but also continuing to engage with the activity when difficulties arose.

The findings suggested that independence developed through opportunities to try, make mistakes, and try again. Parents supported this process by allowing children to count familiar objects before immediately providing the answer. When mistakes occur, parents could gently encourage children to count again or touch each object while counting. These approaches gave children opportunities to practice while ensuring that assistance remained available when needed. Eason et al. (2021) provided relevant context for understanding how parental prompts supported young children's numeracy-related conversations. The researcher interpreted these findings as showing that parents could encourage independent attempts without expecting children to complete every task correctly on their first try. Such support allowed children to practice at their own pace and gradually become more comfortable with familiar numeracy activities.

Self-confidence in numeracy was not determined solely by whether a child provided the correct answer. A child's willingness to attempt a task, ask questions, and try again also reflects engagement in learning. Parents could encourage this behavior by assigning simple tasks, acknowledging effort, and providing guidance

without completing the activity for the child. Cahoon et al. (2024) explored parents' experiences of supporting mathematics at home, while Eason et al. (2021) examined how parent-child interactions encouraged children's engagement with numeracy. These studies provided relevant context for recognizing the value of parental involvement in children's early mathematics experiences. The researcher considered these strategies appropriate for the proposed Parent Training Program because they encouraged parents to support both numeracy practice and children's willingness to participate independently.

Taken together, the participants' responses suggested that some children had become more willing to count familiar objects and participate in sorting and quantity-comparison activities with less direct assistance. Parents also observed that children sometimes made mistakes or continued to need guidance while performing these tasks. The findings highlighted the importance of providing regular opportunities for children to practice, attempt tasks independently, and receive support when necessary. These observations were relevant to research on parent-child interactions and home numeracy experiences (Cahoon et al., 2024; Eason et al., 2021; Elliott et al., 2023). Based on these findings, the researcher considered it important for the proposed Parent Training Program to guide parents in providing simple counting activities, allowing children to make independent attempts, responding patiently to mistakes, and offering gentle assistance when needed. These strategies could help parents create supportive home learning experiences in which children practiced numeracy while gradually developing greater independence.

Theme 5: Quantity Awareness and Checking Skills

The participants' responses revealed that some parents observed their children beginning to use counting to check the number of objects needed for everyday tasks. They described children counting plates before meals, checking school supplies, and noticing when there were not enough objects for a particular activity. These observations suggested that children were beginning to use counting not only to identify quantities but also to determine whether the available number of objects met a practical need. Cahoon et al. (2024) explored parents' experiences of incorporating mathematics into everyday home activities, while Elliott et al. (2023) examined number-related activities in the home numeracy environment. These studies provided relevant context for understanding how household routines offered opportunities for children to apply their developing numeracy skills. Participant 1 explained:

> *Usahay, kung mangaon mi, iyang ihapon kung pila kabuok ang plato nga naa sa lamesa. Kung tulo mi mokaon, mosulay siya og pangita og tulo ka plato. Para nako, maayo kini kay nagamit niya ang iyang nakat-onan sa ordinaryong buluhaton.*
>
> *(Sometimes, when we eat, the child counts how many plates are on the table. When there are three of us eating, the child tries to find three plates. For me, this is good because the child uses what has been learned in an ordinary activity.)*

The response showed that the parents incorporated counting into the preparation of family meals. By counting the plates and relating their number to the people who eat, the child had an opportunity to connect numbers with an actual need. This illustrated how counting became more meaningful when it served a practical purpose rather than being limited to reciting numbers. The researcher viewed this activity as an example of how parents could help children understand the relationship between numbers and quantities through familiar household routines. This interpretation was consistent with the context of Cahoon et al. (2024), whose study explored the incorporation of mathematics into everyday home experiences.

The participant's observation also suggested that the child was beginning to use counting to determine how many plates were needed for the family. Rather than counting objects only as an exercise, the child attempted to identify the quantity required to complete a task. Elliott et al. (2023) provided relevant context for understanding how number-related activities in the home could create opportunities for children to engage with mathematical concepts. The researcher considered this an important learning opportunity because children could see the immediate purpose of counting. Parents could strengthen this experience by asking, "How many plates do we need?" and allowing the child to count and check the plates independently, while helping when necessary.

This response further suggested that simple questions during daily routines could encourage children to develop quantity awareness. Questions such as "Do we have enough plates for everyone?" encouraged children to count the available objects and compare the quantity with what was needed. Eason et al. (2021) examined the role of parent prompts in supporting young children's numeracy-related talk, providing relevant context for this approach. The researcher recognized that these questions did more than encourage counting because they also prompted children to think about whether the quantity was sufficient. This insight highlighted the importance of including practical questioning strategies in the proposed parent training program. Participant 9 also shared:

> *Sa dili pa siya moadto sa eskwelahan, akong ipaihap ang iyang mga lapis ug krayola. Iyang ihapon ang matag usa ug ibutang sa iyang bag. Usahay, kung kulang ang iyang lapis, iyang mamatikdan nga gamay ra ang iyang ihap kumpara sa naandan.*
>
> *(Before the child goes to school, I ask the child to count the pencils and crayons. The child counts each item and places them in the school bag. Sometimes, when a pencil is missing, the child notices that the count is lower than usual.)*

The response highlighted how counting helped children check the availability of school materials. The parents described asking the child to count pencils and crayons before placing them in the school bag. When the number of pencils was lower than usual, the child sometimes noticed the difference. This suggested that the child was beginning to use counting to check whether the expected materials were present. Elliott et al. (2023) examined number-related activities in the home environment, providing relevant context for this observation. I saw this as an example of how counting helped children notice differences between what they have and what they need.

The finding also suggests that children can compare the available number of objects with what they expect to have. When a pencil is missing, the child may notice that the quantity is different from the usual amount. However, this observation alone does not confirm that the child can consistently identify missing items or compare quantities accurately. Cahoon et al. (2024) provided relevant context for considering how ordinary home routines can create opportunities for children to engage in mathematics. At the same time, parents should allow for the possibility that a child may need help comparing quantities or remembering the usual number of items.

Parents can support this skill by allowing children to check their school supplies before leaving home. They can ask questions such as, "How many pencils do you have?" or "Is anything missing from your bag?" These simple questions encourage children to count, compare, and check their belongings. Eason et al. (2021) examined how parent prompts can support children's numeracy-related talk, which is relevant to encouraging parents to guide children through simple quantity-checking activities.Participant 7 shared:

Kung mag-andam mi og pagkaon, akong ipakuha niya ang igo nga gidaghanon sa mga kutsara. Kung upat mi mokaon, iyang ihapon kung upat ba ang iyang nakuha. Usahay, kung kulang, mokuha pa siya og usa ka kutsara.

(When we prepare food, I ask the child to get the correct number of spoons. If there are four of us eating, the child counts whether four spoons have been taken. Sometimes, if there are not enough, the child gets another spoon.)

The response illustrated how children used counting to check whether enough objects were available for a particular task. By counting the spoons needed for the family, the child had an opportunity to identify the required quantity and recognize when another spoon was needed. Cahoon et al. (2024) and Elliott et al. (2023) provided relevant context for understanding how familiar household routines offered opportunities to encounter mathematical concepts. The researcher considered this example meaningful because the child used to count not only to identify a number but also to determine what action was necessary to complete the task.

The finding also suggested that children were beginning to connect counting with simple problem-solving. When the child discovered that there were fewer spoons than needed, the child obtained another spoon to complete the task. Parents could support this process by asking, "Do we have enough?" or "How many more do we need?" These questions could encourage children to compare the available quantity with the required quantity. Eason et al. (2021) provided relevant context for understanding how adult prompts supported children's numeracy-related conversations. The researcher recognized that children might still need guidance in counting accurately and determining the correct quantity but allowing them to think and respond independently could help develop their problem-solving skills.

The participants' responses suggested that quantity awareness involved more than counting objects; it also included checking quantities, recognizing shortages, and deciding what needed to be done. Preparing plates for meals, checking school supplies, and counting spoons provided opportunities for children to practice these skills in familiar situations. The researcher considered these activities valuable for the proposed parent training program because they connect numeracy with practical everyday experiences.

The researcher realized that simple home activities, such as counting fruits, pencils, and plates, help children practice numeracy in real-life situations. Parents can guide children patiently and let them try independently. These activities also help children become familiar with numbers and understand how they are used in everyday life. Through repeated practice, children can gradually become more confident in counting and handling simple tasks. The proposed NUMBER-IN-ACTION Parent Training Program will help parents support numeracy learning through daily routines

Problem 3. What challenges do parents encounter in providing opportunities for mathematics learning at home?

Table 3. Present the thematic analysis of challenges encountered by parents

Table 3. Challenges Encountered by Parents in Providing Mathematics Learning Opportunities at Home

Participants	Codes	Categories	Themes	Interpretation
P1, P2, P3, P5, P6, P8, P9, P10	Tiredness after work; Household responsibilities;	Time constraints and competing responsibilities	**Limited Time for Home Mathematics Activities**	Parents struggled to find time for numeracy activities due to work and household responsibilities (Cahoon et al., 2024).

	Busy schedules limiting time with children			
P1, P2, P3, P4, P7, P8, P9, P10	Difficulty sustaining activities; • Changing activities; Challenges keeping learning enjoyable	Managing and sustaining home learning activities	**Difficulty Maintaining Children's Interest in Learning Activities**	Parents found it difficult to sustain children's interest in learning activities (Trickett et al., 2022).
P1, P3, P6, P8, P10	Limited supervision; Tiredness after work; Competing household responsibilities	Balancing parenting duties and learning support	**Difficulty Balancing Household Responsibilities and Learning Support**	Parents struggled to balance household duties and children's learning needs (Leyva et al., 2023).
P4, P6, P7, P10	Patience and guidance; Adjusting activities; Uncertainty in teaching numeracy	Need for practical parental guidance	**Need for Strategies to Support Numeracy Learning at Home**	Parents needed simple strategies to guide their children's numeracy learning (Eason et al., 2021).
P6, P7	Correcting counting mistakes; Repeating explanations; Difficulty explaining numbers	Limited confidence and teaching knowledge	**Difficulty Explaining Basic Numeracy Concepts**	Parents found it challenging to explain numbers and correct counting mistakes (Elliott et al., 2023).

The findings revealed that participants experienced difficulties finding enough time to support their children's numeracy learning at home. Their responses highlighted challenges such as tiredness after work, household chores, busy schedules, and limited opportunities to guide their children. These findings show that parents may value their children's learning but still experience difficulties because of their daily responsibilities. Cahoon et al. (2024) provide relevant context for understanding how parents' experiences and circumstances may influence the home mathematics environment. Participant 1 shared:

> *Usahay, wala kaayo koy oras sa pagtudlo sa akong anak kay kapoy ko gikan sa trabaho. Pag-abot sa balay, naa pa koy mga buluhaton. Kung naa koy bakanteng oras, akong tabangan siya sa pag-ihap. Pero dili gyud ni pirmi mahitabo kay kapoy pud ko usahay.*
>
> *(Sometimes, I do not have enough time to teach my child because I am tired from work. When I arrive home, I still have household chores. When I have free time, I help my child practice counting. However, I cannot do this all the time because I also get tired.)*

The response showed that the parents had limited time and energy to help the child practice counting. Although the parents wanted to provide learning support, work and household responsibilities made it difficult to do so regularly. This suggested that the lack of time did not necessarily reflect a lack of interest in the child's education. Instead, the parent's circumstances affected the opportunities available for home learning. Cahoon et al. (2024) examined parents' views and experiences of the home mathematics environment, providing relevant context for understanding this challenge.

From the researcher's perspective, this finding emphasized that parents did not always need to set aside a separate period for mathematics activities. Everyday routines could also provide meaningful opportunities for children to practice counting and recognize quantities. For example, parents could ask their children to count utensils while setting the table, identify the number of fruits in a container, or count household objects while arranging them. These activities could be incorporated into tasks that parents already performed, making numeracy practice more manageable despite their busy schedules. Elliott et al. (2023) examined different dimensions of number-related activities in the home, providing relevant context for understanding the role of everyday experiences in children's numeracy learning.

The researcher further recognized that the proposed training program needed to consider the actual circumstances of the parents. Activities that required lengthy preparation or extended teaching sessions might have been difficult for busy parents to sustain. Therefore, short, practical, and flexible activities appeared more appropriate. The training program could introduce parents to simple ways of integrating counting, sorting, and comparing quantities into their daily routines. In this way, parents could support their children's numeracy development without adding too much to their existing responsibilities. Participant 2 shared:

> *Ganahan ko nga magpraktis OG ihap akong anak SA balay, pero usahay busy kaayo ko. Daghan kog buhaton mao nga dili mi pirmi makapraktis. Mas maayo unta kung mubo ra nga activity ang among buhaton. Bisan gamay nga oras, makatabang gihapon sa iyang pagkat-on.*
>
> *(I want my child to practice counting at home, but sometimes I am very busy. I have many things to do, so we cannot practice regularly. It would be better if we could do short activities. Even a little time can help with the child's learning.)*

The participant's response revealed a willingness to support the child's numeracy development despite having a busy schedule. The parents also recognized that short activities could be more practical than lengthy learning sessions. This indicated that the duration and convenience of an activity could influence whether parents were able to include it in their daily routines. Cahoon et al. (2024) provided relevant context for understanding the relationship between parents' circumstances and their experiences of the home mathematics environment.

In the researcher's view, the participant's response highlighted the importance of making home mathematics activities simple, flexible, and easy to implement. A parent could ask the child to count fruits before eating, identify the number of plates on the table, or compare the number of toys in two groups. These activities could be completed within a few minutes and would not necessarily require additional learning materials. More importantly, they could help children encounter mathematical concepts in familiar situations. Elliott et al. (2023) provided relevant context for examining the different number-related activities that children experienced at home.

The researcher also considered that short activities could help parents become more confident in supporting their children's learning. Some parents might have associated mathematics instruction with formal lessons, worksheets, or scheduled study periods. However, the participant's response suggested that even brief interactions could provide opportunities for numeracy practice. This insight supported the need for a training program that demonstrated how ordinary household activities could be used to introduce mathematical concepts. Rather than expecting parents to act as formal teachers, the program could encourage them to become learning partners who guide their children through simple questions and practical experiences.Participant 3 shared:

Kung daghan kog buhaton sa balay, dili nako siya matabangan dayon. Usahay, magdula lang siya samtang naghuman ko sa akong mga buluhaton. Kung mahuman na ko, mangutana ko niya kung pila kabuok ang iyang mga dulaan. Mao ni akong paagi sa pagtabang niya bisan busy ko.

(When I have many things to do at home, I cannot help the child right away. Sometimes, the child plays while I finish my chores. When I am done, I ask how many toys the child has. This is my way of helping even when I am busy.)

The response showed how the parent managed household responsibilities while still finding opportunities to support the child's numeracy learning. Although the parent could not provide immediate assistance, the parent used the child's toys to introduce counting after completing household chores. This suggested that numeracy activities did not always require parents to interrupt their responsibilities or prepare special learning materials. Instead, the parents made use of the child's existing play materials to create a learning opportunity. Cahoon et al. (2024) provided relevant context for understanding how family circumstances shaped parents' experiences of supporting mathematics learning at home.

From the researcher's perspective, this response demonstrated the value of recognizing and building on practices that parents already used. The parents had found a practical way to introduce counting by asking a simple question about the child's toys. This approach showed that learning opportunities could emerge naturally from play and household routines. Parents could also encourage children to group toys according to color or size, count objects in each group, and identify which group contained more or fewer items. These activities could provide opportunities to practice basic numeracy while allowing children to engage with familiar objects.

The researcher further observed that the participant's experience highlighted the importance of parent-child interaction. Although the parent's time was limited, asking the child a question created an opportunity for the child to think about quantity and communicate an answer. Eason et al. (2021) examined parent prompts during play in relation to young children's numeracy experiences, providing relevant context for understanding the potential value of simple questions and parent-child interactions.

This finding also suggested that the proposed training program should include demonstrations of how parents could use playtime and household objects to support numeracy development. Parents could be guided to ask questions such as "How many toys do you have?", "Which group has more?", or "Can you give me three objects?" These questions could be incorporated into ordinary activities without requiring a formal lesson. Through such examples, parents could recognize that their existing routines and interactions could provide opportunities for children to practice counting, comparing quantities, and understanding numbers.

The participants' responses revealed that limited time was a common challenge in supporting children's numeracy learning at home. Work-related tiredness, household chores, and busy schedules affected how often parents could engage their children in mathematics activities. However, their experiences also showed that parents remained willing to support their children through simple and practical approaches. The researcher interpreted these findings as an indication that effective home numeracy support should be realistic and responsive to the daily circumstances of families.

The findings further suggested that the proposed training program should emphasize short activities, the use of readily available household materials, and the integration of numeracy into everyday routines. By providing practical examples, the program could help parents recognize and use learning opportunities that might otherwise be overlooked. Although the findings did not establish the long-term effectiveness of these practices, they provided a basis for developing training activities that considered parents' time limitations while encouraging them to support their children's early numeracy learning.

Theme 2: Difficulty Maintaining Children's Interest in Learning Activities

The findings revealed that the participants experienced difficulties maintaining their children's interest during home numeracy activities. Their responses showed that the children sometimes became bored, lost interest in repeated activities, or preferred other forms of play. To address these challenges, the parents changed their approaches, used toys, and turned learning activities into games. These findings suggested that children's interest and willingness to participate were important considerations when supporting numeracy learning at home. Eason et al. (2021) provided relevant context for understanding how parentsprompt and interactions during play related to young children's numeracy experiences.Participant 1 shared:

> *Ganahan siya moihap sa iyang mga dulaan, pero usahay dali ra siya pul-an. Mangita dayon siya og laing duwa. Mao nga usahay akong ilisan ang among activity. Mas ganahan siya kung dula-dula ang among pagkat-on.*
>
> *(The child likes counting toys but sometimes gets bored easily. The child quickly looks for another game. That is why I sometimes change our activity. The child enjoys learning more when it feels like playing.)*

The response showed that the child's interest in counting did not always last throughout the activity. The parents addressed this difficulty by changing the activity and making it more playful. This suggested that the child responded better when learning involved enjoyable and familiar experiences rather than repeatedly following the same activity.

From the researcher's perspective, this finding highlighted the importance of understanding children's interests when introducing numeracy activities at home. Young children might not remain engaged in an activity for an extended period, particularly when it involves repetitive instructions. Instead of insisting that the child continue counting in the same way, parents could introduce variations that made the activity more enjoyable. For example, they could use toy animals, building blocks, or household objects to create simple counting games. Eason et al. (2021) examined parent prompts during play in relation to young children's numeracy experiences, providing relevant context for incorporating interaction into playful learning activities.

The researcher also observed that maintaining a child's interest did not necessarily require expensive toys or specially prepared materials. Familiar objects could be used to introduce counting, sorting, and comparing quantities. This approach could help parents provide learning opportunities while allowing children to enjoy their usual play activities. Elliott et al. (2023) provided relevant context for understanding the role of number-related activities in children's home environments.Participant 2 shared:

> *Usahay, dali ra mawala ang iyang interes sa activity. Kinahanglan usbon nako ang paagi aron malingaw siya. Usahay, himoon nako kini nga dula o pangutana. Kung malingaw siya, mas ganahan siyang mopadayon.*
>
> *(Sometimes, the child quickly loses interest in the activity. I need to change the approach to make it enjoyable. Sometimes, I turn it into a game or ask questions. When the child enjoys it, the child is more willing to continue.)*

The participant's response revealed that the parent adjusted the learning approach when the child began to lose interest. By turning the activity into a game or asking questions, the parents attempted to make the experience more engaging. This suggested that the way an activity was presented influenced the child's

willingness to participate. The response also showed that the parent observed the child's reactions and adjusted the activity accordingly.

In the researcher's view, this finding emphasized that parents needed to be flexible when guiding children through home numeracy activities. A single approach might not work equally well for every child or every situation. For instance, when a child becomes uninterested in counting objects one by one, the parent could introduce a guessing game, ask the child to find a specific number of objects, or invite the child to identify which group contained more items. These adjustments could provide variety while maintaining the numeracy objective of the activity.

The researcher further recognized that questions could encourage children to participate actively rather than simply follow instructions. Asking questions such as "How many toys are there?", "Can you find three blocks?", or "Which group has more?" could encourage children to count, observe, and compare quantities. However, parents also needed to consider their children's responses and avoid making the activity feel like a demanding lesson. Eason et al. (2021) provided relevant context for understanding the role of parent prompts during play in young children's numeracy experiences.

This finding also suggested that the proposed training program should demonstrate different ways of presenting the same numeracy concept. Parents could be introduced to counting games, object-finding activities, and simple question-and-answer interactions. Through these examples, they could learn to modify activities based on their children's interests and responses. The researcher considered this important because the goal was not merely to complete a learning task but also to create a positive experience that encouraged children to participate. Participant 3 shared:

> *Kung sigehan nako siya og pa-ihap, usahay dili na siya ganahan. Mas ganahan siya kung iyang mga dulaan ang gamiton. Ako siyang pasagdan nga mopili sa dulaan nga among ihapon. Mas malingaw siya kung apil siya sa among activity.*
>
> *(When I keep asking the child to count, sometimes the child loses interest. The child prefers using toys. I let the child choose which toys we will count. The child enjoys the activity more when involved in it.)*

The response showed that repeatedly asking the child to count sometimes reduced the child's interest. In contrast, allowing the child to choose the toys created an opportunity for greater participation. This suggested that children became more willing to engage in numeracy activities when they had some involvement in deciding how the activity was carried out. Eason et al. (2021) provided relevant context for understanding how parent-child interaction during play related to young children's numeracy experiences.

From the researcher's perspective, the participant's experience highlighted the value of giving children simple choices during learning activities. Allowing children to select the toys or objects they wanted to count could help make the activity more meaningful to them. It could also give parents an opportunity to introduce numeracy concepts using materials that already attracted their children's attention. For example, a child could choose toy cars to count, arrange them into groups, or compare the number of cars with the number of toy animals.

The researcher also interpreted the response as an indication that children's participation involved more than simply answering questions or following instructions. When children were allowed to choose, handle, and arrange objects, they became active participants in the learning experience. Parents could use these opportunities to ask simple questions, encourage counting, and allow children to explain their answers in their own words. Elliott et al. (2023) provided relevant context for considering how number-related activities in the home contributed to children's everyday numeracy experiences.

Furthermore, the finding suggested that parents could adjust the pace and structure of an activity according to their children's responses. When a child showed signs of boredom, the parent could introduce a different object, shorten the activity, or allow the child to choose another counting game. The researcher considered these adjustments practical because they recognized that children had different interests and levels of engagement. Such an approach could help parents maintain a supportive learning environment without placing unnecessary pressure on their children.

The participants' responses revealed that maintaining children's interest was an important challenge in home numeracy activities. The children sometimes became bored with repetitive tasks, while the parents found that games, familiar toys, questions, and opportunities to make choices encouraged greater participation. The researcher interpreted these findings as evidence that the presentation of numeracy activities deserved attention alongside the mathematical skills being practiced.

The findings also suggested that parents could benefit from learning different strategies for making numeracy activities enjoyable and appropriate for their children. The proposed training program could therefore include demonstrations on using toys and household objects, introducing simple counting games, asking questions during play, and allowing children to make choices. These strategies could help parents adapt activities to their children's interests and available attention. Although the findings did not establish that these approaches would consistently improve every child's numeracy skills, they provided a basis for developing practical training activities that encouraged positive parent-child interaction and meaningful opportunities for early numeracy learning.

Theme 3: Difficulty Balancing Household Responsibilities and Learning Support

The findings revealed that the participants experienced difficulties balancing household responsibilities with the need to support their children's numeracy learning. Their responses highlighted limited supervision, tiredness, competing household tasks, and difficulty finding suitable times for learning activities. These findings suggested that supporting children's numeracy development depended not only on parents' willingness but also on the demands of everyday family life. Although the participants faced these challenges, their responses showed that they still made efforts to guide their children whenever time became available.Participant 1 shared:

> *Kung nagluto ko o nanglimpyo, dili nako siya matutokan sa iyang pagtuon. Kinahanglan pud nako humanon ang akong mga buluhaton. Kung mahuman na ko, akong tan-awon ang iyang gibuhat. Tabangan nako siya kung naa siyay dili masabtan.*
>
> *(When I am cooking or cleaning, I cannot closely watch the child while learning. I also need to finish my chores. When I am done, I check the child's work. I help whenever the child does not understand something.)*

The participant's response showed that cooking and cleaning made it difficult to supervise the child continuously. Nevertheless, the parents checked the child's work and helped when necessary. This suggested that parents attempted to balance household responsibilities with the child's learning needs by providing guidance whenever an opportunity became available. The response also indicated that limited supervision did not necessarily mean that learning support was absent.

From the researcher's perspective, this finding highlighted the reality that parents often had to divide their attention between caring for the household and supporting their children's education. Expecting parents to remain beside their children throughout every learning activity might not have been practical, particularly

when they had several responsibilities to complete. Instead, parents could help at appropriate times by checking their children's counting, asking questions about their activities, and correcting misunderstandings. Cahoon et al. (2024) examined parents' experiences of the home mathematics environment, providing relevant context for understanding the circumstances that influenced home-based learning support.

The researcher further observed that parents could make use of ordinary household routines to create opportunities for numeracy practice. For instance, after finishing their chores, parents could ask their children to count the objects they had arranged or identify the number of items in a group. Such interactions could help children practice basic mathematical concepts without requiring parents to conduct a separate lesson. Elliott et al. (2023) examined number-related activities in the home, providing relevant context for understanding how everyday family experiences could offer opportunities for numeracy learning.

This finding also suggested that the proposed training program needed to acknowledge the limited time available to parents. Rather than emphasizing continuous supervision, the program could demonstrate practical ways to guide children before, during, or after ordinary household activities. The researcher considered this approach important because it recognized parents' existing responsibilities while encouraging them to remain involved in their children's learning.Participant 2 shared:

> *Ganahan ko motabang sa akong anak, pero daghan usahay akong buhaton sa balay. Dili nako siya mabantayan pirmi kung nag-ihap siya. Usahay, akong ingnon nga maghulat lang hangtod mahuman ko. Human ana, akong tabangan kung kinahanglan.*
>
> *(I want to help my child, but sometimes I have many things to do at home. I cannot always watch the child while counting. Sometimes, I ask the child to wait until I finish. After that, I help if needed.)*

The participant's response revealed that household responsibilities sometimes delayed the assistance provided to the child. The parents managed the situation by asking the child to wait and offering help after completing the household tasks. This indicated that the parents' involvement was influenced by the availability of time rather than by a lack of willingness to assist. The response also showed that parents sometimes needed to adjust the timing of learning activities to accommodate their responsibilities.

In the researcher's view, this experience emphasized the importance of realistic expectations regarding parental involvement in home numeracy activities. Parents could not always provide immediate assistance, especially when they were occupied with household duties. However, they could still support learning by returning to the activity when they became available. For example, a parent could review the child's counting, ask how the child arrived at an answer, or help identify and correct an error. These interactions could provide opportunities for guidance without requiring uninterrupted supervision. Cahoon et al. (2024) provided relevant context for understanding parents' experiences of supporting mathematics learning within the home environment.

The researcher also recognized that children could be given simple and familiar activities to explore while waiting for parental assistance, provided that the activities were appropriate and safe for their age. Children could count their toys, arrange objects into groups, or identify which group contained more items. When the parents became available, the activity could be reviewed together. Such an approach could connect independent exploration with parental guidance while accommodating the family's daily schedule. Elliott et al. (2023) provided relevant context for considering the role of home-based number activities in children's numeracy experiences.

Furthermore, the response suggested that the proposed training program should help parents identify activities that required minimal preparation and could be adjusted to their available time. The researcher

considered this important because complicated activities might have added to parents' existing workload. By demonstrating simple counting games and brief question-and-answer interactions, the program could help parents integrate numeracy learning into their routines more conveniently. Eason et al. (2021) examined parent prompts during play, providing relevant context for considering how simple questions and interactions could support young children's numeracy experiencesgroup has more items when time permits. These activities allow parents to provide learning opportunities while managing their responsibilities. Eason et al. (2021) examined parent prompts during play, offering relevant context for using simple questions and interactions to support young children's numeracy experiences.Participant 3 shared:

> *Lisod usahay ang pagbahin sa akong oras sa mga buluhaton ug sa pagtabang sa akong anak. Usahay, kinahanglan siya maghulat hangtod mahuman ko. Bisan busy ko, maningkamot gihapon ko nga makahatag og panahon niya. Magpraktis mi og ihap kung makalugar ko.*
>
> *(Sometimes, it is difficult to divide my time between household chores and helping my child. Sometimes, the child needs to wait until I finish. Even when I am busy, I still try to make time for the child. We practice counting whenever I am available.)*

The response showed that balancing household responsibilities and learning support was challenging for the participant. Despite these difficulties, the parents continued to try to provide time for counting practice. This suggested that the parents adjusted the timing of numeracy activities according to the demands of everyday life. The response also revealed that learning opportunities depended partly on when the parent could become available to guide the child. Cahoon et al. (2024) provided relevant context for understanding how parents' circumstances influenced their experiences of the home mathematics environment.

From the researcher's perspective, the participant's experience highlighted the importance of recognizing that regular learning opportunities did not always require long sessions or a fixed schedule. Parents could support numeracy through brief interactions whenever suitable opportunities arose. For example, they could ask their children to count fruits before eating, identify the number of toys in a container, or compare the quantities of objects during play. These activities could be incorporated into familiar routines and adjusted according to the time available.

The researcher further interpreted the participant's response as an indication of parental commitment despite competing responsibilities. The parents' effort to find time for counting practice showed that even limited opportunities were considered worthwhile. However, the researcher also recognized that the success of these activities depended on their suitability for the child and the family's circumstances. Therefore, the proposed training program needed to provide flexible examples rather than prescribe a single schedule that all parents were expected to follow. Elliott et al. (2023) provided relevant context for understanding the different ways children encountered number-related activities in their home environments.

The response also emphasized the value of making numeracy activities part of ordinary family interactions. When parents became available, they could ask their children simple questions, encourage them to count familiar objects, or invite them to compare quantities. These interactions could provide opportunities for children to practice basic mathematical concepts while spending time with their parents. Eason et al. (2021) examined parent prompts during play, providing relevant context for understanding the role of parent-child interaction in young children's numeracy experiences.

The researcher considered these findings important in developing a training program that was responsive to the realities of family life. Parents could be introduced to practical strategies for identifying suitable moments for learning, using readily available materials, and providing brief guidance when their schedules

permitted. Such strategies could help parents recognize that supporting numeracy did not always require extensive preparation or continuous supervision. Instead, simple and meaningful interactions could be incorporated into activities that were already part of the family's daily routine.

The participants' responses revealed that balancing household responsibilities and numeracy learning support was a challenge shaped by the demands of everyday family life. Cooking, cleaning, and other household tasks sometimes prevented parents from providing immediate or continuous assistance. Nevertheless, the participants demonstrated efforts to check their children's work, provide guidance when needed, and practice counting whenever time became available.

The researcher interpreted these findings as an indication that home numeracy support needed to be practical, flexible, and appropriate to parents' circumstances. The findings suggested that parents could benefit from strategies that allowed them to integrate short learning activities into existing routines rather than requiring them to set aside lengthy periods for instruction. Accordingly, the proposed training program could emphasize simple counting activities, brief parent-child interactions, and practical ways to review children's learning after household responsibilities had been completed. Although the findings did not establish the long-term effectiveness of these strategies, they provided a basis for developing a program that recognized parents' daily challenges while encouraging continued involvement in their children's early numeracy experiences.

Theme 4: Need for Strategies to Support Numeracy Learning at Home

The findings revealed that the participants needed practical strategies to support their children's numeracy learning at home. Their responses highlighted uncertainty about which activities to use, difficulty explaining mathematical concepts in different ways, and a preference for simple and affordable learning materials. These findings suggested that although parents were willing to help their children, they sometimes lacked the knowledge and confidence needed to guide numeracy activities effectively. The responses also indicated that parents could benefit from practical examples that showed how everyday experiences could be used to introduce basic mathematical concepts. Cahoon et al. (2024) examined parents' views and experiences of the home mathematics environment, providing relevant context for understanding parents' experiences in supporting children's numeracy learning at home. Participant 1 shared:

> *Usahay dili ko kahibalo unsaon pagtudlo sa akong anak. Ganahan ko motabang niya pero wala kaayo koy mga ideya sa activity. Mas maayo unta kung naay motudlo namo og sayon nga paagi. Magamit nako kini sa balay uban sa akong anak.*
>
> *(Sometimes, I do not know how to teach my child. I want to help, but I do not have many ideas for activities. It would be better if someone taught us simple ways to help our children. I could use these at home with my child.)*

The participant's response showed a willingness to support the child's learning but a lack of ideas about suitable numeracy activities. The parent recognized the importance of helping the child but expressed a need for guidance on how to begin. This suggested that parents' willingness to participate in their children's learning did not always mean that they knew which strategies to use. Cahoon et al. (2024) provided relevant context for understanding parents' experiences of the home mathematics environment.

From the researcher's perspective, this finding highlighted the importance of providing parents with practical and easy-to-follow examples rather than simply encouraging them to become involved in their children's learning. Parents might have understood the importance of counting but still needed guidance on how to introduce numbers through activities suited to young children. For example, parents could use toys, fruits, spoons, or other familiar household objects to practice counting and identifying quantities. These activities could help parents translate their willingness to assist into actual learning experiences at home.

Elliott et al. (2023) examined number-related activities in the home,providing relevant context for understanding how everyday experiences could support children's numeracy learning.

The researcher further observed that concrete materials could make numeracy activities easier for parents to explain and for children to understand. Instead of relying only on written numbers, parents could allow children to touch and move objects while counting aloud. For instance, a parent could place five objects on a table and guide the child in counting each object individually. This approach could help connect number words with actual quantities through direct experience. The researcher considered such demonstrations important for the proposed training program because they could provide parents with simple methods that did not require specialized teaching skills or expensive materials.

The findings also suggested that the training program should give parents opportunities to practice preparing and conducting these activities. Through practical demonstrations, parents could learn how to introduce counting, sorting, and comparing quantities using materials already available at home. The researcher believed that this hands-on approach could make the training more useful because parents would have concrete examples they could adapt to their children's needs and their household circumstances.Participant 2 shared:

> *Kung dili niya masabtan akong gitudlo, usahay maglisod ko og pasabot pag-usab. Mangita ko og laing paagi aron masabtan niya. Usahay, mogamit ko og mga butang nga naa sa balay. Gusto pa ko makat-on og mas daghang paagi sa pagtudlo kaniya.*
>
> *(When the child does not understand what I teach, sometimes I have difficulty explaining it again. I look for another way to help the child understand. Sometimes, I use objects available at home. I want to learn more ways to teach the child.)*

The participant's response revealed that explaining a numeracy concept became challenging when the child did not understand the initial explanation. Despite this difficulty, the parents attempted to find alternative ways to explain the concept, including using household objects. This suggested that parents sometimes needed different approaches to help their children understand basic mathematical ideas. The response also showed that the parents were open to learning additional strategies to improve the support provided at home. Cahoon et al. (2024) provided relevant context for understanding the challenges parents experienced when supporting children's mathematics learning in the home environment.

In the researcher's view, this finding emphasized that parents needed to understand not only which activities to use but also how to adjust their explanations when children experienced difficulty. Repeating the same instruction might not always have been sufficient. Instead, parents could demonstrate the activity, use simpler words, or present the concept through familiar objects. For example, when a child struggled with counting, the parent could move one object at a time while saying each number aloud and encouraging the child to do the same. This could make the counting process easier to follow and provide an opportunity for guided practice. Elliott et al. (2023) provided relevant context for understanding how number-related activities in the home could offer opportunities for children to engage with mathematical concepts.

Theresearcheralsointerpreted theparticipant'sexperience as an indication that patience and flexibility were important when supporting young children's learning. Children might not understand a concept immediately, so parents need to recognize when a different explanation or a simpler activity might be more appropriate. For instance, a parent could begin by asking the child to count two or three objects before gradually introducing larger quantities. The researcher considered this progression useful for the proposed training program because it could demonstrate how parents might adjust activities according to their children's responses without making learning unnecessarily difficult.

Furthermore, the response suggested that parents could benefit from learning how to ask questions and provide guidance during play. Rather than giving the answer immediately, parents could ask the child to count the objects again, point to each item, or identify how many objects remained. Eason et al. (2021) examined parent prompts during play in relation to young children's numeracy experiences, providing relevant context for the use of interaction and simple guidance during learning activities.

Based on this finding, the researcher considered it important for the proposed training program to include examples of alternative teaching approaches. Parents could practice explaining the same numeracy concept using objects, demonstrations, simple questions, and play-based activities. These strategies could help them respond more confidently when their children encounter difficulties. The program could also emphasize that parents did not need to provide perfect explanations immediately; instead, they could learn to explore different ways of making a concept understandable to their children. Participant 3 shared:

> *Ganahan ko nga naa koy mga ideya sa mga dula nga makatabang sa pag-ihap sa akong anak. Dili kinahanglan mahal ang mga gamit. Pwede ra gamiton ang dulaan o prutas nga naa sa balay. Mas sayon para namo kung simple ra ang activity.*
>
> *(I would like to have ideas for games that can help my child practice counting. The materials do not need to be expensive. We can use toys or fruits available at home. Simple activities would be easier for us.)*

The participant's response revealed a preference for learning activities that were simple, practical, and did not require expensive materials. Toys and fruits were identified as accessible resources that could be used to help children practice counting. This finding suggested that parents valued activities that could be easily incorporated into their daily routines without creating additional financial expenses. Cahoon et al. (2024) examined parents' experiences of the home mathematics environment, providing relevant context for understanding how families supported mathematics learning at home.

From the researcher's perspective, this finding highlighted the importance of considering the availability of learning materials when developing strategies for home numeracy activities. Parents did not necessarily need to purchase specialized educational materials to provide meaningful learning opportunities. Instead, they could use familiar household objects to introduce basic mathematical concepts. For example, children could count fruits, group toys according to size, or compare the number of spoons on a table. These activities could help children practice counting and comparing quantities using objects they encountered in their everyday lives. Elliott et al. (2023) examined number-related activities in the home, providing relevant context for understanding how everyday objects could be incorporated into children's numeracy experiences.

The researcher further interpreted this finding as an indication that the practicality of an activity could influence its suitability for families. Activities that used readily available materials required less preparation and could be more easily repeated during ordinary household routines. Parents could invite their children to count objects while playing, arrange household items into groups, or identify quantities during simple tasks. Through these interactions, children could encounter numbers in familiar situations, while parents could provide guidance without having to conduct a formal lesson.

This finding also supported the inclusion of low-cost and easy-to-prepare activities in the proposed training program. The researcher considered it important for parents to learn how to transform ordinary household objects into learning resources. By demonstrating simple and affordable activities, the training program could help parents recognize that opportunities for numeracy practice were already available within their homes. Although these activities alone did not establish improvements in children's numeracy skills, they provided practical options that parents could adapt to their children's needs and family circumstances.

Theme 5: Difficulty Explaining Basic Numeracy Concepts

The participants reported difficulties explaining basic numeracy concepts to their children. Their responses focused on correcting, counting mistakes, repeating explanations, and finding suitable ways to explain numbers. Although only two participants were associated with this theme, their experiences identified a specific area where additional parental guidance could be useful. Cahoon et al. (2024) examined parents' views and experiences of the home mathematics environment, providing relevant context for understanding the challenges parents faced when supporting their children's mathematics learning at home. Participant 6 shared:

> *Usahay, masayop akong anak sa pag-ihap ug tudloan nako siya pag-usab. Dili pirmi sayon ang pagpasabot niya. Mao nga akong hinay-hinayon og tudlo ug ipakita ang mga butang. Maningkamot ko nga masabtan niya ang hustong pag-ihap.*
>
> *(Sometimes, my child makes mistakes when counting, so I teach the child again. Explaining it is not always easy. That is why I teach slowly and show the objects. I try to help the child understand how to count correctly.*

The participant's response revealed that explaining counting concepts became challenging when the child made mistakes. To address this difficulty, the parent repeated the explanation slowly and used objects to demonstrate the correct counting process. This suggested that parents recognized the need to adjust their teaching approaches according to their children's level of understanding. From the researcher's perspective, the response also showed that parents were willing to provide guidance even when explaining basic concepts required additional time and effort. Cahoon et al. (2024) explored parents' views and experiences of the home mathematics environment, providing relevant context for understanding the challenges of supporting children's numeracy learning at home.

This finding highlighted the importance of patient guidance and clear demonstrations when introducing basic number concepts. The researcher considered that children could benefit from seeing and touching objects while saying the corresponding number words rather than relying only on verbal explanations. For example, parents could ask their children to touch each toy as they counted, helping them associate each number word with one object. Through this simple activity, children could practice counting while parents observed whether they skipped objects, counted an object more than once, or had difficulty following the correct sequence. Elliott et al. (2023) examined number-related activities in the home, making their research relevant to understanding how numeracy could be incorporated into children's everyday experiences.

The participant's experience further suggested that repeated practice could provide children with additional opportunities to become familiar with counting. The researcher believed that parents did not always need to correct mistakes immediately through lengthy explanations. Instead, they could demonstrate the correct sequence, invite the child to try again, and provide encouragement throughout the activity. This approach could help parents identify the specific parts of counting that their children found difficult while allowing children to practice at their own pace. Eason et al. (2021) examined parent prompts during play, providing relevant context for understanding how simple guidance and interaction could support young children's numeracy activities.

.Participant 7 shared:

> *Usahay maglibog siya sa mga numero ug kinahanglan nako usbon ang akong pagpasabot. Mas dali niya masabtan kung mogamit ko og mga butang. Mag-ihap mi samtang iyang*

makita ang mga butang. Gusto pa ko makat-on og laing paagi aron mas matabangan nako siya.

(Sometimes, the child gets confused with numbers, so I need to explain them again. The child understands more easily when I use objects. We count while looking at the objects together. I want to learn other ways to help the child better.)

The participant's response indicated that the child sometimes became confused about numbers and required repeated explanations. The parents observed that using visible objects made counting easier for the child to follow. The response also revealed the parent's willingness to learn additional strategies to provide better support. From the researcher's perspective, this was an important finding because the difficulty did not appear to result only from the child's confusion; it also reflected the parent's need for more strategies to explain mathematical concepts in ways that the child could understand. Cahoon et al. (2024) examined parents' experiences of the home mathematics environment, providing relevant context for understanding the support parents needed when guiding children's mathematics learning at home.

This finding emphasized the value of using different methods when introducing children to basic numeracy concepts. The researcher considered that parents could make counting activities more understandable by combining verbal explanations with visual and hands-on demonstrations. For example, parents could ask their children to touch each object while counting, arrange objects in a row, or match a written numeral with the corresponding number of objects. These activities could help children connect number words and written numerals with actual quantities. They could also allow parents to observe which concepts their children understood and which ones required further practice. Elliott et al. (2023) examined number-related activities in the home, making their study relevant to understanding how everyday experiences could provide opportunities for early numeracy learning.

The participant's experience also suggested that patience and repeated practice were important when children had difficulty understanding numbers. The researcher viewed the parent's request for additional strategies as an indication that some parents needed practical guidance on how to respond when their children became confused. Parents could use simple language, demonstrate the activity, asks the child to try again, and provide enough time for the child to respond. They could also break a task into smaller steps instead of introducing several concepts at once. Such strategies could help parents adjust their explanations according to their children's needs rather than relying on a single teaching method. Eason et al. (2021) examined parent prompts during play, providing relevant context for the use of simple questions and guidance during young children's that some parents struggled to explain basic numeracy concepts but tried to help their children through repeated explanations and familiar objects. These experiences highlighted the need to strengthen parents' confidence and practical skills in supporting numeracy learning at home. The researcher also recognized that children learned at different paces and needed patient guidance. Therefore, parents needed practical ways to explain numbers and correct counting mistakes.

Problem 4. Based on the findings of the study, what parent training program could be proposed to strengthen parents' capacity to support the incidental development of numeracy skills among kindergarten learners?

Based on these findings, the proposed training program included simple counting strategies, the use of household objects, and child-friendly explanations. These strategies aimed to help parents address their children's learning difficulties and support numeracy practice through everyday activities. The program also emphasized patience, encouragement, and repeated practice. Through these strategies, parents could provide

meaningful learning opportunities using materials readily available at home. It also encouraged parents to involve children in simple household tasks. Parents were guided to let children practice counting independently. These activities helped make numeracy learning simple, enjoyable, and practical.

PROPOSED TRAINING PROGRAM

NUMBER-IN-ACTION: A Parent Training Program on Supporting Incidental Numeracy Acquisition through Everyday Activities

Rationale

The proposed training program, "NUMBER-IN-ACTION," was developed
based on the findings of the study on informal mathematics activities and incidental numeracy acquisition among kindergarten learners at Maibu Elementary School. The study showed that parents can help children learn numbers through everyday activities such as playing, eating, cooking, shopping, and doing household chores.

However, some parents face challenges in helping their children learn at home. These include having limited time because of work and household responsibilities, keeping children interested, finding suitable activities, and explaining basic number concepts. Because of these challenges, parents need simple and practical ways to support their children's learning without spending too much time or money.

This training program aims to help parents use everyday activities to teach basic numeracy skills. It focuses on simple and enjoyable activities that help children recognize numbers, count objects, compare quantities, sort items, and practice simple addition. Parents will learn how to use common household objects and guide their children with patience. Through these activities, children can learn and practice numeracy skills as part of their daily routines.

Objectives

The implementation of the training program is expected to result in the following outcomes among parents and children:

The implementation of the training program is expected to:

1. Help parents understand how everyday activities can support children's numeracy learning.
2. Teach parents how to use household objects and daily routines to practice number recognition, counting, sorting, comparing quantities, and simple addition.
3. Encourage parents to make learning fun and enjoyable through playing, cooking, eating, shopping, and other daily activities.
4. Help parents address common challenges, such as limited time, children losing interest, and difficulty explaining basic number concepts.
5. Encourage parents to patiently guide their children and include simple numeracy activities in their daily routines at home.

Matrix of the Proposed Training Program

No.	Findings	Objectives	Activities / Strategies	Persons Involved	Time Frame	Expected Output
1	Parents use everyday activities to teach numbers but need more ideas on how to support	To help parents understand how everyday activities can support	Short discussion, sharing of experiences, and demonstration of simple	Researcher, Parents	Week 1	Parents identify simple ways to include numeracy

	children's numeracy learning.	children's numeracy learning.	numeracy activities using household objects.			activities in daily routines.
2	Parents have limited time because of work and household responsibilities.	To teach parents how to include simple numeracy activities in their daily routines.	Demonstration of counting household objects, sorting laundry, counting food items, and identifying numbers while shopping.	Researcher, Parents, Children	Week 2	Parents learn how to use daily activities as opportunities for numeracy learning.
3	Parents experience difficulty keeping their children interested in numeracy activities.	To help parents make numeracy activities fun and enjoyable for children.	Number games, counting toys, songs, drawing, and play-based activities using familiar objects.	Researcher, Parents, Children	Week 3	Parents can provide enjoyable activities that encourage children to participate in numeracy learning.
4	Parents find it difficult to explain basic numeracy concepts and guide children who struggle with numbers.	To help parents guide children in number recognition, counting, sorting, comparing quantities, and simple addition.	Demonstration of counting objects, matching numbers with quantities, sorting items, and using fingers or toys for simple addition.	Researcher, Parents, Children	Week 4	Parents learn practical ways to help children practice basic numeracy skills at home.
5	Parents need patience and practical strategies to support children's learning despite limited time and other responsibilities.	To encourage parents to patiently guide children and regularly include numeracy activities in daily routines.	Sharing of parenting experiences, discussion of simple ways to handle learning difficulties, and preparation of a daily home numeracy activity plan.	Researcher, Parent		

Expected Output

The NUMBER-IN-ACTION Parent Training Program is expected to help parents understand how children can learn numbers through everyday activities. Parents are expected to gain simple ideas on how to use household objects, play, cooking, eating, and shopping to support their children's numeracy learning.

The program is also expected to help parents provide enjoyable learning opportunities where children can practice recognizing numbers, counting, sorting, comparing quantities, and simple addition. Through these activities, children can develop their numeracy skills while taking part in familiar daily routines.

Lastly, parents are expected to become more patient and confident in guiding their children's learning. They are also expected to include simple numeracy activities in their daily routines, even when they have limited time and other household responsibilities. The program may also strengthen parents' awareness of the importance of their involvement in their children's early mathematics learning. It is expected to encourage parents to use available and affordable materials at home. Parents may learn strategies for adjusting activities according to their children's interests, abilities, and learning needs. Overall, the program is intended to promote meaningful parent-child interactions and support the development of basic numeracy skills at home. The program is also expected to help parents recognize that learning numeracy does not always require formal lessons or expensive educational materials. It may encourage them to make numeracy activities a regular part

of their family routines and interactions. Furthermore, the program is expected to provide practical strategies that parents can continue using to support their children's numeracy development beyond the training sessions.

Conclusions

Based on the findings of the study, the following conclusions are given:

1. Parents play an important role in supporting their children's numeracy learning. Everyday activities such as playing, cooking, shopping, and counting household objects provide opportunities for children to learn numbers naturally.

2. Parents use different ways to help their children learn numeracy, including repetition, play, guidance, encouragement, and the use of familiar objects. These practices help children understand and practice basic numeracy skills through daily experiences.

3. Parents face challenges in supporting their children's numeracy learning, such as limited time, difficulty keeping children interested, and difficulty explaining basic number concepts. These challenges show the importance of patience and adjusting activities to suit children's needs.

4. Simple and practical activities can help parents support their children's incidental numeracy acquisition at home. The proposed NUMBER-IN-ACTION Parent Training Program provides ideas for using everyday activities to make numeracy learning a natural and enjoyable part of children's daily lives.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are offered:

Parents are encouraged to use everyday activities, such as playing,
cooking, shopping, and counting household objects, to help their children learn numeracy. They are also encouraged to be patient and provide simple and enjoyable learning activities at home.

Teachers are encouraged to share practical numeracy activities that parents can easily do with their children at home to support learning outside the classroom.

School Principal is encouraged to support the proposed NUMBER-IN-ACTION Parent Training Program by providing opportunities for parents to learn simple ways to support their children's numeracy learning through everyday activities.

Researchers may conduct similar studies with more participants or in other schools and communities. They may also examine the effectiveness of the proposed training program in supporting children's incidental numeracy acquisition

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Acknowledgments

The researcher wishes to express her profound gratitude and heartfelt appreciation to the following individuals and groups whose invaluable guidance, assistance, encouragement, and unwavering support contributed significantly to the successful completion of this research endeavor.

God Almighty, the Supreme Provider and Source of Wisdom, for His countless blessings, divine guidance, strength, wisdom, patience, and protection throughout the research journey. His unfailing grace gave the researcher the courage, perseverance, and determination to overcome challenges and successfully accomplish this academic undertaking.

Julie S. Berame, PhD, Research Adviser, for her invaluable guidance, professional expertise, patience, constructive suggestions, and unwavering support throughout the research process. Her insightful recommendations, encouragement, and dedicated mentorship greatly contributed to the refinement, improvement, and successful completion of this study.

Joanna B. Cuenca, PhD, CESO III; Fe P. Dela Cruz, PhD; Nelia S. Raganas, PhD; and Minie L. Bulay, PhD, Panel of Examiners, for their valuable time, scholarly insights, constructive criticisms, and meaningful

recommendations that significantly enhanced the quality, clarity, and academic rigor of this research. Their professional expertise and thoughtful suggestions helped strengthen the study.

The School Administration and Teachers of Maibu Elementary School, Research Locale Administrators and Facilitators, for their cooperation, assistance, and institutional support in facilitating the conduct of the study. Their willingness to accommodate the research activities and provide the necessary assistance contributed greatly to the successful implementation of the research process.

The Ten Parent-Participants, Research Participants, for their willingness to participate, valuable time, cooperation, and sincere sharing of experiences and perspectives. Their meaningful contributions provided essential information that helped the researcher accomplish the objectives of the study.

The Expert Evaluators of the Proposed Training Program, Research Output Validators, for their professional expertise, valuable insights, constructive recommendations, and careful evaluation of the proposed training program. Their suggestions contributed significantly to improving the relevance, appropriateness, and quality of the proposed research output.

Jurey, Beloved Husband and Constant Source of Strength, for his unconditional love, patience, understanding, sacrifices, and unwavering support throughout this academic journey. His encouragement and steadfast belief in the researcher's abilities provided the strength and motivation to persevere, especially during moments of exhaustion, discouragement, and difficulty. His love and support made this achievement even more meaningful.

Jestelle Maris, John Miggy, and Jacob Michi, Beloved Children and Greatest Inspirations, for their unconditional love, understanding, and presence, which continually inspired the researcher to remain determined and committed to completing this study. Their smiles, affection, and encouragement served as constant reminders of the purpose behind every sacrifice and effort. This accomplishment is also dedicated to them, with the hope of inspiring them to pursue their dreams through faith, perseverance, and hard work.

Hannah Jane, Beloved Sister and Source of Practical and Emotional Support, for her selfless assistance, understanding, and willingness to care for the researcher's baby whenever time was needed to accomplish research-related responsibilities. Her kindness, sacrifices, and dependable support greatly helped the researcher balance family obligations and academic commitments.

Dave, Beloved Cousin and Research Transportation Support, for his generosity, patience, time, and willingness to provide transportation whenever the researcher needed to travel for research-related activities. His assistance made the completion of important research tasks more convenient and manageable.

The Researcher's Family, Pillars of Love and Encouragement, for their unconditional love, prayers, understanding, sacrifices, and continuous support throughout this academic journey. Their unwavering confidence in the researcher's abilities provided the emotional strength necessary to overcome challenges and remain focused on achieving this academic milestone.

The Researcher's Friends and Classmates, Sources of Friendship and Motivation, for their genuine companionship, thoughtful advice, encouragement, understanding, and moral support. Their presence and shared experiences made the challenges of graduate studies more manageable and meaningful.

All Other Individuals Who Contributed to the Study, Supporters and Benefactors, for their kindness, generosity, assistance, prayers, and encouragement, whether directly or indirectly, in making this research possible. Every contribution, regardless of its magnitude, is sincerely appreciated and gratefully acknowledged.

The Researcher Herself, for Her Perseverance and Determination, for remaining steadfast in pursuing this academic goal despite the challenges, sacrifices, and responsibilities encountered along the way. This accomplishment reflects her patience, resilience, commitment, and determination to continue learning and growing personally and professionally.

Above all, the researcher recognizes that this achievement is not hers alone but a reflection of the collective love, guidance, sacrifices, encouragement, and support of everyone who stood beside her throughout this meaningful journey. Their contributions have not only made the completion of this research possible but have also inspired her to continue striving for excellence.

With profound gratitude and heartfelt appreciation, the researcher humbly shares this achievement with her beloved family, mentors, colleagues, participants, and everyone who has supported and believed in her.

To all of you, thank you very much!

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

Funding

The author received no financial support for the research, authorship and publication of this article.