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# Influence Of Home Parental Support and Volunteering in School Activities on Mathematics Outcomes for ECDE Learners in Public ECDE Centres in Emuhaya Sub County, Vihiga County, Kenya

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The present study investigated the Influence of Home Parental Support and Volunteering in School Activities on Mathematics Outcomes of Learners in Public ECDE Centres in Emuhaya Sub County, Vihiga County, Kenya. The objectives of the study were to: establish the influence of parental learning at home support on Mathematics outcomes of ECDE learners and to investigate the influence of parental volunteering in school activities on Mathematics outcomes of ECDE learners in Public ECDE Centres. The study was grounded on Epstein's (1995) Theory of overlapping spheres of influence. The study employed mixed methods research design. A total of 242 respondents (193 parents, 16 headteachers, 32 educators and 1 sub county programme officer) were selected. Questionnaires, Interview Schedules, Focused Group Discussion Guides and Observation Checklists were used to collect data. Quantitative data was analyzed through descriptive and inferential statistical techniques. Qualitative data was thematically analyzed according to themes. Data was presented through tables, graphs and pie charts. The findings revealed that majority of parents did not assist their children with learning at home and did not volunteer in school activities. The study concluded that parents were not supportive with numberwork activities of the children thus low outcomes. The study recommended that parents should set aside time off their busy schedule and actively participate in the education of their children both at home and at school with emphasis on numberwork activities. School administrators and teachers should sensitize parents on the importance of participating in school activities of their children. Significantly the study will benefit policy developers to utilize the study outcomes to draft policies that would inspire programs that may empower parents to participate in their children's school activities.

**Keywords**: Influence, Outcomes, Volunteering, Parental support. Mathematics & Learners

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## 1. Introduction

The most vital inspiration on early childhood development and education (ECDE) is conceived from within the household setting and the quality of education imparted at institutional level. Many researches have indicated that parent involvement, starting as early as preschool years has positive effects on learners' mathematics and literacy skills (Van Voorhis et al. 2013; Wilder, 2014).

Over the past 50 years, the roles of parents and educators in the ECDE pupils' learning outcomes have changed. In

the twentieth century, educators were perceived as experts and there was no need for parental involvement in their learner's education (Duckworth, 2018). However, today educational theories have consistently shown that parents are collaborative partners of equal status with educators (Huang, 2017).

Hence, enhancing parental involvement has featured as a central component in major educational policies and reforms worldwide, for example in North America and the United Kingdom, the positive relationship between parental involvement and their ECDE pupils' learning outcomes is consistently supported.

## 1.2 Statement of Problem

Most of the studies carried out in Emuhaya Sub-County based on feeding programs in schools, availability of play materials in schools, implementation of ECDE curriculum among others. Scanty literature was available on parental participation influence on mathematics outcomes of learners in ECDE Centres in Emuhaya Sub County. Emuhaya Sub County was selected because of poor outcomes of ECDE learners in Mathematics as shown by 2018/2019 KSRATS of learners who transited to grade one in 2019/2020 respectively. With regard to this backdrop, the current study investigated the Influence of Home Parental Support and Volunteering in School Activities on Mathematics Outcomes of Learners in Public ECDE Centres in Emuhaya Sub County, Vihiga County, Kenya.

## 1.3 Purpose of the Study

The study aimed at investigating the influence of home parental support and volunteering in school activities on mathematics outcomes of learners in public ECDE centres in Emuhaya Sub County, Vihiga County, Kenya.

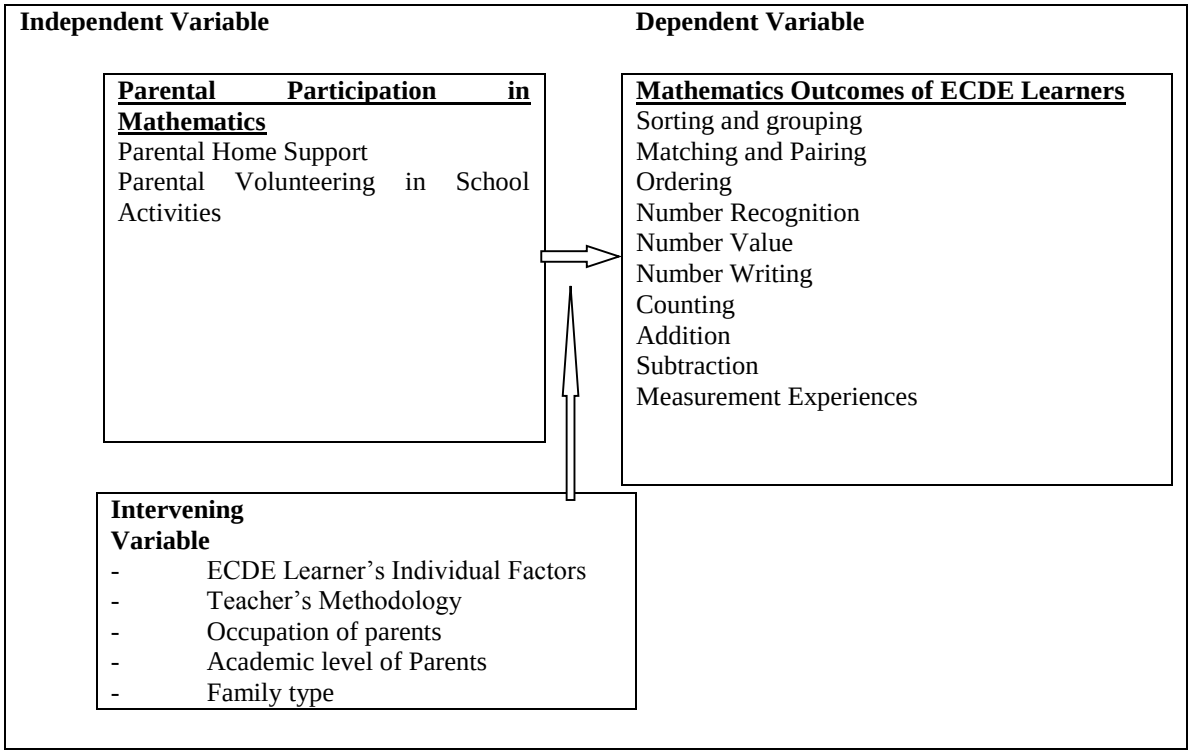


**Figure 1: Conceptual Framework**

The dependent variable in this conceptual framework was mathematics outcomes of ECDE learners which was dependent on the level of parental participation in Mathematics (Independent Variable). Mathematics outcomes of ECDE learners was exhibited by sorting and grouping, matching and pairing, ordering, number recognition, number value, number writing, counting, addition, subtraction as well as engaging in measurement experiences. In this Conceptual Framework, intervening variables were Challenges in Parental Participation in Mathematics Outcomes of Learners.

# 2. Literature Review

According to Van Voorhis et al. (2013) there are four categories of parental participation: learning activities at home that parents use to encourage their children's literacy and mathematics skills, family participation in schools and classroom-based activities, school outreach

activities designed to involve families to make them feel included and welcome, and supportive parenting activities that promote learners' developmental well-being. Moreover, as observed by Fasina, (2011), among the forms parental participation takes are contact with schools to share information; participation in school events; participation in the work of the school and participation in school governance among others.

Studies in Nigeria propose that learners, parents, educators and head educators as well as schools' benefit from increased parental participation. As reported by Olatoye and Ogunkola, (2008) parental participation activities that are effectively planned and well implemented resulted in substantial benefits to children, parents, educators and schools. As for children, they achieved more, regardless of ethnic or racial background, socioeconomic status, or parents' education level.
The study further indicated that children of more involved parents were found to have higher self-esteem; more self-disciplined and showed higher aspirations and motivation towards school.

Available studies indicate that a large proportion of primary pupils who enroll in grade one education perform dismally in Mathematics activities and this scenario has been attributed to, among other factors, lack of parental concern with their children's education or excessive parental control and demands for superior achievement and poor foundation in pre-schools (Jebii, Odongo, and Aloka, 2016). In addition, other studies have indicated that parents who show little or no interest in their children's education have children who are frequently absent from school, perform poorly, repeat classes and drop out of school (Kibet, 2010).

Quilliams and Beran, (2009) argue that parental participation encourages the significance of performing better in class and this can result to a conversation of future academic objectives for the child. The more parents are involved in the school and actively promote learning at home, the higher the student's grades. This infers that parents have to play a big stake in the education of their children. Parental participation in the education of children leads to fruitful learning. Melhuish et al (2008) emphasized that parents' aid benefits children's learning, especially their numerical competence development. Chiu and Xihua (2008) further proved that delivery of learning resources and activity at home like books, music and discussion of everyday facts, is also associated with enhancement in children's mathematical attainment. A research by Senler and Sungur (2009) exposed that parental participation is linked to how learners perceive arithmetic and science subjects, and consequently their attitude towards the same. In addition, parental participation contributed positively to learner attainment in mathematics and science subjects. The study concluded that students, whose parents make time to talk with them about science, who have confidence in their children's ability in mathematics and science subjects, and who have higher expectations, are inclined to be more interested in the subject.

Parental participation is perceived as one of the parenting practices that help children's transition from home to formal school environment (Mulei, 2012). Despite the many challenges children face as they join ECDE centers, parents have a key role in making this transition less difficult by ensuring continuity between home and school life through parental volunteering (Masila, 2012). Studies done over several years show a robust and unswerving connection between parents' participation in education-related activities and their children's educational achievement. Farrant (2004), cited in Nzabonimpa, Abbott, Tukahabwa and Sapsford (2010) observed that the closer the parent is to the education of the child, the greater the influence on child development and educational achievement. Studies have shown that learners whose parents do not turn up for school meetings, not only have a lot of indiscipline cases, but also more often perform poorly in their exams (Fullan, 2001, cited in Reynolds, Bollen, Creemers, Hopkins, Stoll and Lagerweij (2009). A research on parental participation by Brannon (2008), in United States of America established that parents' participation in activities like attending school events, going for field trips, volunteering in the classroom and having parent-teacher conferences, was meticulously connected with higher reading attainment and lower rates of grade retention. A research carried out by Emerson, Fear Fox and Sanders (2012) on parental participation in learning and schooling in Australia established that parent participation opportunities at the ECDE comprise of attending excursions, volunteering on site and events or even sharing a skill (gardening, cooking, and language). Additional outcomes revealed enhanced learning results were noted when parents and school staff work in harmony to support an operative learning environment both at home and in the institutions. The research utilized quantitative approach only and collected data using only self-administered questionnaires. On the contrary, the present research encompassed both qualitative and quantitative approaches for more valid results thus filling the gap in research.

Guo (2015) scrutinized the views of a small number of Asian immigrant parents and New Zealand early childhood educators about parent-teacher collaborations in children's early education and care. The research was conducted with 6 Asian immigrant families and 26 early childhood educators. It sought parental views on parents and educators working with each other for the benefit of children's learning. The parents were asked what role they considered they should play in their child's early childhood education and how they felt about working with New Zealand early childhood teachers. Their typical responses were; they believed it was the teacher's job to

take care of their children; they did not think their help would be of any use; and they did not approach the teacher because they were afraid of making mistakes and perceived as being frivolous. This research differs from the current one, which was carried out in Emuhaya Sub County, Vihiga County, Kenya thus filling the gap in research.

Lemmer (2016) carried out research in South Africa to establish educators' experiences in relation to parental participation using Epstein's model of family-school collaborations. The research established a positive connection between parents' attendance and their children's school scores due to them actively demonstrating that they value education. The research further showed that having some parents at the school reversed poor trends in school, it restored the culture of teaching and learning in school. The Institute of Education, Action Aid, University of London (IoE) and partners in Senegal, Uganda, Burundi and Malawi, (2010) engaged collaborative research in the four named countries to establish the role of educators and parents in enhancing youngsters' learning. Involving method was used to conduct the study. The research teams conducted over 6,850 stakeholder interviews at the national level and across 240 institutions. The general cross-national findings indicated that only a small minority of parents actively participated in schools. The findings also indicated that there was a direct link between parent's participation and children's behaviour and attendance at school. The current study used mixed method research design. The data was collected using questionnaires, interview schedules, focused group discussions and observation checklists.

In Kenya, Ang'ienda (2013) carried out a research where one of the objectives was to investigate the influence of parental volunteering on pupils' learning process. The research established that about 78.9% of parents of the pupils who frequently volunteered performed good and 5.3% performed excellent in their class work. These percentages were relatively higher than those of which their parents never or rarely volunteered. This is an indication that parental volunteering greatly influenced the children's learning outcome. However, the study did not establish the extent to which parental volunteering influenced children's learning outcomes using inferential statistics. The present research on the other hand utilized mixed research approach with a bigger sample of 16 head teachers, 32 educators, 193 parents and 1 Sub County Program Officer to investigate the Influence of parental participation on Mathematics outcomes of ECDE learners for more conclusive results thus filling the gap in research.

# 3. Methodology

## 3.1 Study Area

This research was carried out in Emuhaya Sub County, which is located in Vihiga County, Kenya. Emuhaya Sub County borders Khwisero Sub County to the North, Sabatia Sub County to the East, Gem Sub County to the West and Luanda Sub County to the South. The Sub County has 2 zones namely Emuhaya North and Emuhaya West.

## 3.2 Study Design

The combination of qualitative and quantitative approaches occurred at different stages of the research process, such as formulation of research questions, data collection and data analysis (Bryman, 2012; Creswell and Plano 2011). This approach to research enabled the study to gather adequate information that provides a better understanding of a research problem and answering the entire research questions than using either qualitative or quantitative research approach alone. The design was more appropriate because it increases the overall strength of a study by enhancing the validity and trustworthy of data collected (Denscombe 2010).

## 3.3 Data collection tools

Interviews schedules were used to interview head teachers while educators were required to fill in the questionnaires to gather in-depth information on parental participation. Through the head teachers, scheduled sessions were prepared in advance for the focus group discussions and the filling of questionnaires by the parents.

## 3.4 Validity and Reliability of Research Instruments

This study adopted the triangulation approach so as to measure the validity of the instruments. Triangulation is a powerful way of demonstrating concurrent validity in both qualitative and quantitative research. In other words, the study used multiple methods of data collection: Interviews, Questionnaires, Focus Group Discussions as well as Observation Checklists. By so doing, areas that had been overlooked by one method were strengthened and checked by the other. This is in line with Creswell (2009) who contends that the use of multi-model techniques to collect data averts the possibility of having invalid and unreliable data. To ensure that the data gathered measured what the study purported to measure, the study further adopted content validity.

The questionnaires were re-administered to the same parents, ECDE educators and head educators after one

week. The composite scores on parental participation and ECDE learners' outcomes in Mathematics were computed using Cronbach reliability test with the help of the SPSS version 22. Reliability of qualitative responses was ascertained through objectivity of the qualitative data, authenticity, trustworthiness, credibility and transfer-ability of data. Credibility was ensured through random sampling of individuals serving as respondents and interactive questioning in data collection dialogues done (Creswell, 2009).

## 3.5 Sampling Techniques

Both Simple Random Sampling and Purposive Sampling techniques were used to select the study sample. Simple random sampling technique was used to select a sample size of 16 head teachers and 32 educators representing 30% and 193 parents representing 10% of the study population who were drawn from 16 ECDE centres representing 30% of the study population which according to Mugenda and Mugenda (2013), is representative enough. Head teachers, educators and parents were selected using the lottery method. Purposive sampling technique was used to sample out 1 Sub County Program Officer since he is the only one in charge of early childhood education in the Sub County and the only one with the information the researcher needed. The researcher had a total of 19 focus groups with the first 16 groups having 10 members each and the last three groups 11 members each.

## 3.5 Data Analysis

Quantitative data was analyzed through descriptive and inferential statistical techniques. Descriptive statistics included measures of central tendencies and frequencies. The inferential statistics included; Pearson correlation co-efficient while qualitative data was thematically analyzed according to themes. Data was presented through tables and pie charts. Quantitative data was gathered from responses to closed ended questions from both teacher's questionnaires and parent's questionnaires and then were coded and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS) version 22.0. The descriptive statistics used were frequencies and percentages which were then summarized and presented in tables. Frequencies and percentages were used because they easily communicate the research findings to majority of the readers (Gay, 1992 cited in Atieno, 2012).

# 4. Results and Discussion

This section presents results obtained from information provided by teachers, parents, and learners under, home parental support on mathematics outcome, parental help in mathematics activities at home, and parental resources development thematic areas.

## 4.1 Home Parental Support on Mathematics Outcomes of ECDE Learners

The study established the influence of home parental support on mathematics outcomes of ECDE learners. The results are as presented in Table 1.

**Table 1: Home Parental Support and Mathematics Outcomes of ECDE Learners**

| Statement | Strongly Disagree | Disagree | Undecided | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I talk to my child about Mathematics activities he/ she does at school –PL1 | 66(34.2%) | 92(47.7%) | 8(4.1%) | 23(11.9%) | 4(2.1%) |
| I help my child with homework on Mathematics activities-PL2 | 55(28.5%) | 102(52.8%) | 13(6.7%) | 21(10.9%) | 2(1.0%) |
| I try to find out what Mathematics activities the child likes doing at school-PL3 | 51(26.4%) | 94(48.7%) | 15(7.8%) | 30(15.5%) | 3(1.6%) |
| I talk with the child about his/ her Mathematics achievement-PL4 | 46(23.8%) | 106(54.9%) | 14(7.3%) | 23(11.9%) | 4(2.1%) |
| I praise my child's school Mathematics achievements-PL5 | 54(28.0%) | 113(58.5%) | 6(3.1%) | 17(8.8%) | 3(1.6%) |

Key: PL -Parental Learning at Home support

Item PL1 sought to establish if the parents talked to their children about mathematics. Of the 193 81.9% did not talk to their children, only 14% did. A parent in a focused group discussion echoed by others noted that:

> *"My child cannot let me talk to him on anything concerning his school work at all especially mathematics. He has always told me that am not instructing him like his teacher, that I don't know how to teach. As a parent, what do you do when your own child rejects your help? You have no choice but to keep off."*

On the other hand, the Sub-County Program Officer when interviewed expressed that:

> *"Parental home support is key to improvement of Mathematics outcomes. School alone is not enough. The time allocated for Mathematics activities is 30 minutes which is not enough. Parents should create time at home and interact with their children and assist them to improve in Mathematics."*

Muola (2010) noted that children of communicative parents are provided with better learning environment at home because their parents are interested in sharing learning experiences about school with their children, home study and always encourage their children to be focused.

Item PL2 sought to establish if parents help their children with Homework on Mathematics at home. Of the 193 respondents, the majority (81.3%) do not help their children with their homework on mathematics and only 11.9% agreed that they helped. These results were confirmed by parents in a focused group discussion who had this to say:

> *"What can we do to help our children do homework? Their teachers know better the right instructions to give but not us. This work is not that easy for us as parents, it requires a lot of time and knowledge in it, and hence only teachers have that knowledge to teach and not us"*

Another parent echoed by a number of others said;

> *"Teachers know better all that children need for learning, what have we got to do in what we have not trained for? It is the teacher's job to teach what they trained for and besides, nowadays children are not taught the same way we were taught."*

Guo (2015) found out that many parents do not assist their children with homework because they believed it was the teacher's job to take care of their children; they did not think their help would be of any use; and they did not approach the teacher because they were afraid of making mistakes and perceived as being frivolous.

Item PL3 sought to establish if parents try to find out what Mathematics activities their children like doing at school. Of the 193 respondents only 17.1% of the parents agreed that they find out what mathematics activities their children like doing at school. The majority, 75.1% of the parents don't find out the mathematics activities their children like which was the same gesture as per Wei and Eisenhartkc (2011) who postulate that parents should engage in other activities with children which include; discussing children's daily life at school, checking their homework, reading books with children, talking about nature, playing games, engaging them in household chores, and building something to help them learn mathematics at home.

Item PL4 sought to establish if parents talked with their children about mathematics achievement. Of the 193 respondents, majority (78.7%) did not talk with their children about mathematics achievement and performance, only 14% did. Taunyana (2010) contends that, most parents in rural communities are ravaged by poverty and spend most of their time away from their children's educational needs. Some spend time fending for the family by selling groceries and fruits and do not create time to discuss their children's mathematics achievement.

Item PL5 sought to establish if parents praised their children school Mathematics achievements. Of the 193 respondents, majority (86.5%) of the parents did not praise their children school Mathematics achievements while only 10.4% of the parents praised their children school mathematics achievements. Caspe (2010) argues that learners become more motivated to work harder when their parents praise them, this increases their self-efficacy too.

## 4.2 Responses on Parental Participation and Mathematics Outcomes of ECDE Learners

The educators were asked to comment on the influence of parental participation on mathematics outcomes of ECDE learners. The results are shown in Table 2 below.

**Table 2: Educator's Responses on Parental Participation and Mathematics Outcomes of ECDE Learners**

| Statement | Strongly Disagree | Disagree | Undecided | Agree | Strongly Agreed |
|---|---|---|---|---|---|
| Parents follow up their child's progress in Mathematics | 6.2% | 25.0% | 12.5% | 43.8% | 12.5% |
| Parents participate in organized school activities | 3.1% | 31.3% | 6.3% | 43.8% | 15.6% |
| Parents attend Parents Association Meetings | 12.5% | 9.4% | | 34.4% | 40.5% |
| Parents provide supplementary Mathematics activity books | 6.3% | 18.8% | 12.5% | 46.9% | 15.6% |
| Parents assist their children with Mathematics homework | 12.5% | 9.4% | 6.3% | 40.5% | 31.3% |
| Parents visit school to check on child's Mathematics outcomes | 9.4% | 6.3% | 3.1% | 43.8% | 37.5% |
| Parents communicate their children's Mathematics strengths and weaknesses | 12.3% | 6.7% | 10.5% | 34.4% | 36.1.% |
| Parents provide space for doing homework to their children | 12.5% | 15.2% | 9.5% | 32.4.0% | 30.4% |
| Parents are friendly to teachers | 15.6% | 50.0% | 3.1% | 25.0% | 6.3% |
| **Test statistics (Person correlation)** | **P-value=0.000, r=0.578**,N=186, at 95% CI** | | | | |

These results indicated that majority of parents (56.3%) were less concerned about their children's progress. These results concur with Gesare (2012) who reported that parents who visited schools benefited from direct information about their children's progress and thus, worked with educators to contribute to learner's higher standards of achievement. These findings concur with responses from interviews with head teachers. A majority of them reported that:

> *"Many parents hardly make a follow up on the academic progress of their children. To them, as long as their children are attending school then it is up to the teacher to teach them and make the children succeed in their education."*

On parental participation in organized school activities, the results by educators showed that majority of the parents 59.4% did not participate in organized school activities only 34.4% did. Cheung and Pomerantz (2012) expressed that one benefit of parental involvement is that parents can show their children they believe school is important when they get involved in school activities. These findings were further confirmed by common responses from head teachers' interviews who expressed that:

> *"Most parents do not participate in organised school activities such as open days and academic clinics. They view these kind of activities as time wasting and therefore do not get involved."*

The results on parents' attendance of parent's association meetings showed that the majority of parents (74.9%) did not attend PA meetings. These results are in agreement with most responses from head teachers interviews who noted that:

> *"Majority of parents do not attend parent's association meetings at school. Only a few parents avail themselves but even so, they do not actively participate in decision making regarding their children's schooling and achievement in learning areas."*

Okantey (2010) noted that when parents participate in school decisions, governance, and advocacy activities through councils, committees, improvement teams, and parents‟ organizations, resources and services for preschools and families are enhanced. Allowing parents to discuss with teachers, to keep abreast of progress or discuss availing problems, assisted in practical activities and governance of schools yields better gains.

Results on parents' provision of supplementary materials indicated that majority of parents (62.5%) did not provide supplementary materials for mathematics activities. Practice in mathematics is important and supplementary materials enhance this. Mesman et al (2011) established that provision of school requirements and supplementary materials is one of the main predictive variables influencing student's academic achievement.

On parental assistance with mathematics homework, results by educators indicated that majority of parents (71.8%) did not assist their children with homework, only 29.1% did. These results concur with findings from focused group discussions with parents who confirmed that:

*"We normally come back home from work in the evening exhausted and still have to do some house chores like, fetching water, cooking supper among others. We do not have time to assist our children with homework. The teachers should teach the children well to understand what they are required to do in the homework."*

Laroque et al (2011) reported that some parents may not be involved with homework activities because they felt their children should be asking their teachers rather than them for help. For a child to succeed in education, both the parents and the teachers have to work as a team.

Results on parents visit to school showed that majority of parents (81.3%) did not visit the school to check on mathematics outcomes of their children, only 15.7% did. These results concur with Laroque et all (2011) who reported that parents may not place value in education due to their own upbringing or lack of success in school themselves and this may make them hesitant to question teachers or schools because they feel inferior. Olmstead (2014) on the other hand argued that communication is important but proactive involvement does not require parents to be physically present at school since, they can be connected via school social media platforms.

Concerning parent's communication on children's strengths and weaknesses in mathematics (12.3%) strongly agreed that they communicated to educators, (6.7%) agreed, (10.5%) were undecided, (34.4%) disagreed and (36.1%) strongly disagreed. These results concur with responses from focused group discussions held by parents who reported that:

*"The teachers are the ones in charge of our children when they go to school. They spend more time with our children than we do and therefore are in a better position to know their strengths and weaknesses in mathematics and how to help them improve."*

On provision of homework space by parents for doing homework only 19% of parents provide. Most parents, 62.8% do not provide space for doing homework to their children. Parents may also have limited cognitive bandwidth to respond to the various tasks associated with supporting their children's education (Mullainathan & Shafir, 2013) including providing space for doing homework. The results concur with a common response from focused group discussions by parents who were quoted saying that:

*"Our houses are small, besides the children are not given a lot of homework so they can just do it anywhere in the house that they feel comfortable."*

The results of the correlation analysis as presented in Table 3 ($r= 0.578$ $p < 0.001$) shows that there is a positive correlation between Mathematics outcomes of ECDE learners and parental home support. This result is consistent with Munroe and Brown (2011) research which indicated that parental involvement in preschools mathematics activities is correlated with many outcomes in school.

**Table 3: Correlation Analysis of Parental Home Support and Mathematics Outcomes**

| Variable | | Parental Home Support | Mathematic outcome |
|---|---|---|---|
| **Parental Home Support** | Pearson's Correlation | 1 | .578** |
| | Sig. (2-tailed) | | .000 |
| | N | 186 | 186 |
| **Mathematic outcome** | Pearson's Correlation | .578** | 1 |
| | Sig. (2 tailed) | .000 | |
| | N | 186 | 186 |

**** Correlation is significant at the 0.05 level (2-tailed)**

## 4.3 Parental Volunteering Role in School Activities and ECDE Learner's Mathematics Outcomes

This section gave the results of parental volunteering in school activities of ECDE learners on Mathematics outcomes. A research from Netherlands revealed that family volunteering in provision of quality and quantity cognitive stimulation is positively related to child success in mathematics performance (Mesman, 2011). Thus, the results show that to improve the outcomes in mathematics activities parents should be encouraged to volunteer in school activities such as classroom and field trips.

Partnership with families to share decisions made with schools on curriculum implementation, improves achievement in learner's mathematics activities among other areas. According to Munroe and Brown, (2011) recommends involvement programs that welcome parents to volunteer as partners in schools' decisions on matters that affect children and families. Engaging parents in ways that support parental involvement in mathematics activities at school and home, and improving learning by schools, create greater gains. This objective sought to determine parental volunteering in school activities and Mathematics Outcomes of ECDE Learners in school.

**Table 4: Parental Volunteering in School Activities and Mathematics Outcomes of ECDE Learners**

| Statement | Strongly Disagree | Disagree | Undecided | Agree | Strongly Agree |
|---|---|---|---|---|---|
| I participate in Parent Association (PA) meetings-PV1 | 45(23.3%) | 93(48.2%) | 11(5.7%) | 28(14.5%) | 16(8.3%) |
| I attend organized sporting activities of the school-P2. | 28(14.5%) | 71(36.8%) | 22(11.4%) | 50(25.9%) | 22(11.4%) |
| I attend organized functions of the school such as speech and prize giving days-PV3 | 38(19.7%) | 85(44.0%) | 18(9.3%) | 35(18.1%) | 17(8.8%) |
| I always visit the school to follow up on my child's academic progress-P4 | 44(22.8%) | 81(42.0%) | 15(7.8%) | 39(20.2%) | 14(7.3%) |
| I make donations during school prize award day-PV5 | 37(19.2%) | 70(36.3%) | 20(10.4%) | 32(16.6%) | 34(17.6%) |
| I volunteer in classroom or on field trips-PV6 | 45(23.3%) | 63(32.6%) | 18(9.3%) | 39(20.2%) | 28(14.5%) |
| I attend parents' meetings to discuss child's learning or behavior-PV7 | 51(26.4%) | 94(48.7%) | 7(3.6%) | 25(13.0%) | 16(8.3%) |
| **Test statistics (Person correlation)** | **P-value=0.000, r=0.478**, N=186, at 95% CI** | | | | |

**PV**- Parental Volunteering

Item PV1 sought to establish if parents participated in Parent Association (PA) meetings. Of the 193 respondents, majority 71.5% did not participate in Parent Association (PA) meetings while 22.8% did. Responses from head teachers interviewed confirmed these results as they noted that:

*"Majority of parents when called upon to attend school meetings rarely come. We normally have less than half of the parents' population attending PA meetings. This is very discouraging."*

According to Munroe and Brown (2011) when parents participate in school decisions, and governance and on matters that affect their children's education, including evaluation of mathematics activities, then success will be achieved. Small and Gose (2020) argue that Parents Associations are useful platforms for information delivery because they provide opportunities for social interaction among members, resulting in positive exchange of ideas that promote positive outcomes. Okantey (2010), further states that, when parents participate in school decisions, governance, and advocacy activities through councils, committees, improvement teams, and parents‟ organizations, resources and services for preschools and families are enhanced. Allowing parents to discuss with teachers, to keep abreast of progress or discuss availing problems, assisted in practical activities and governance of schools.

Item PV2 sought to establish if parents attended organized sporting activities of the school. Of the 193 respondents, 51.3% of them did not attend organized sporting activities of the school, only 37.3% did. The headteachers interviewed confirmed these results by stating that:

*"Very few parents are keen to get involved fully in school activities especially sports days. Parents should come out in big numbers to cheer up their children. But what we normally experience is disheartening even to the young ones."*

These findings were further confirmed by the Sub- County Program Officer who confirmed that:

*"The attendance of parents is usually very low. Parents are not keen on being involved in school activities such as sports days and prize giving days. Some of them think it is a waste of time when they should be doing other important things to them such as fending for the family."*

These results are consistent with Fan and Williams (2010) who contend that the frequency with which parents engage with extra-curricular activities for example, sports events and holidays is positively related with children's self-efficacy towards mathematics and their subsequent achievement.

Item PV3 sought to establish if parents attended organized functions of the school such as speech and prize giving days. Of the 193 respondents, 63.7% of them did not attend, only 26.9% attended. According to Hill and Chao (2009) parents who work closely with the school gain a better understanding of the school's expectations and how they can work with the teachers to support the children to achieve better outcomes.

Item PV4 sought to establish if parents always visited the school to follow up on their children's academic progress. Of the 193 respondents, majority (64.8%) did not visit school to check on progress of their children, only 27.5% visited. Cheung and Pomeranntz (2012) expressed that one benefit of parental involvement is that parents can show their children they believe school is important when they get involved. These studies are consistent with those of Avvisati, Gurgand, Guyon and Maurin (2014) who found out that providing parents with information about their children's academic progress can lead parents to update their biased beliefs, reallocate resources, improve student behavior and raise academic outcomes.

Item PV5 sought to establish if parents made donations during school prize award. Of the 193 respondents, 55.5% did not make donations during school prize award, only 34.2% made donations. Findings from a focused group discussion with parents confirmed that they do not make donations when they reported that:

*"In recent times, life has become very tough. We barely have enough to sustain our families. We desire to give out in support to our school but our financial situations do not allow us."*

Bower and Griffin (2011) argue that parental involvement can take on many forms including donations and is seen as an effective strategy to enhance student's success.

Item PV6 sought to establish if parents volunteered in classroom or on field trips. Of the 193 respondents, the majority (55.9%) did not volunteer in classroom or on field trips while a smaller proportion of 34.7% volunteered. The findings of this study concur with those of Suizzo et al (2012) who assert that some parents are highly involved at the school level for instance, by volunteering in the classroom, chaperoning field trips or events and communicating regularly with the teachers while some are not.

Item PV7 sought to establish if parents attended parents' meetings to discuss children's learning or behavior. Of the 193 respondents, majority (75.1%) of them did not attend parents' meetings, only 21.3% attended. These findings concur with those of Rogers and Feller (2018) who reported that there are many consequences when parents do not participate in their children's education activities which include high drop outs rates, illiteracy to children, behavioral problems and poor academic outcomes. Thus, ECDE activities need to be supported in order for the anticipated achievement to be realized.

The results of the correlation analysis as presented in table 5 ($r=0.478$ $p<0.001$) shows that there is a strong positive correlation between parental volunteering and mathematics outcomes of ECDE learners. Studies have shown that school involvement is associated with increased achievements (Lee & Bowen, 2006; Dearing Kreider, Simpkins & Weiss, 2006; Mc Bride, Dyer, Liu, Brown' Hong, 2009) specifically, school involvement such as volunteering and participation in school events was found to have the largest beneficial effect on achievement.

**Table 5: Correlation Analysis of Mathematics Outcomes and Parental Volunteering in School Activities**

| Variable | | Parental Volunteering | Mathematic outcome |
|---|---|---|---|
| **Parental Volunteering** | Pearson's Correlation | 1 | .478** |
| | Sig. (2-tailed) | | .000 |
| | N | 186 | 186 |
| **Mathematic outcome** | Pearson's Correlation | .478** | 1 |
| | Sig. (2 tailed) | .000 | |
| | N | 186 | 186 |

**** Correlation is significant at the 0.05 level (2-tailed)**

# 5. Conclusion and Recommendations

## 5.1 Conclusion

Majority of parents accepted that they do not: talk to their children about mathematics activities and outcomes, do not assist with homework, do not praise their children's mathematics outcomes, do not provide learning space, do not provide supplementary materials for mathematics practice, do not participate in Parents' Association meetings, sporting activities, speech and prize giving days, visit school to follow up on child's progress, make donations, volunteer in classroom/field trips or attend

parent's meetings to discuss children's' learning or behavior.

## 5.2 Recommendations

The study recommended that parents should set aside time to talk about mathematics activities and assist their children with homework, praise their children's' mathematics outcomes, provide space for doing homework, provide supplementary materials for mathematics practice, participate in school academic activities and functions, visit school to follow up on children's' progress, make donations, volunteer in classroom/field trips and avail themselves in parents' meetings to discuss their children's learning and behavior.

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