

Stakeholder Collaboration and Resources Mobilization for Science Activities in Early Years Education Programme in Kisumu West Sub-County, Kenya

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Abstract

Quality science learning in early years' education (EYE) programme provide a solid foundation for the subsequent development of scientific concepts that children will encounter throughout their academic lives. Section 9 of the fourth schedule of the constitution of Kenya (promulgated in 2010), outlines pre-primary education, as a function of county governments. County governments have a responsibility on budgetary allocation for physical infrastructure, remuneration of EYE teachers and provision of teaching and learning materials. Available evidence suggests that EYE programmes do not have sufficient and age appropriate resources for science activities. Extant and recent empirical studies have provided consistent evidence that stakeholder collaboration have positive effect on resource mobilization for educational programmes. However, few empirical studies have investigated the relationship between stakeholder collaboration and resources mobilization for science activities in early years' education in a devolved system of governance like the one obtaining in Kenya. The purpose of the study was to establish the relationship between stakeholder collaboration and resources mobilization for science activities in early years' education programme in Kisumu West Sub-County, Kenya. The study adopted cross-sectional design. The target population for the study was 1227 respondents, composed of County Executive committee members, County Chief Officers, Departmental directors, Project management committee members, Sub-County Administrators, Ward administrators, EYE coordinators and EYE instructors. Simple stratified random sampling was used. Using Krecjic and Morgan table of sample estimation, a sample size of 297 was found to be sufficient for the study. Descriptive and inferential data were analysed using SPSS computer package version 21. Descriptive statistics included frequencies, percentages, means and standard deviations. Inferential statistics included correlation and regression analyses. Pearson correlation(r) and coefficients of determination (R^2), were computed to assess the association between stakeholder collaboration and resources mobilization for science activities in early years' education programme. There was significant positive association between stakeholder collaboration and resources mobilization for science activities in early years' education programme ($r=0.395$ $P<0.01$). The study recommends that the county governments in Kenya should strengthen stakeholder collaboration strategies in their early years' education programmes to ensure sustainable resources for early years' science activities. It is also recommended that stakeholder collaboration strategies should be integrated in the design and implementation of the early years' education programmes in devolved early years' education programme in Kenya.

Keywords: Stakeholder Collaboration, Early Years Science Activities, Resources Mobilization, Early Years Education Programmes, County Governments.

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I. Background

Resources forms the pillars of virtually all organizations. It is important that organization formulate strategies for resource mobilization, this should be identified in order to achieve the intended results (Lestler, 2007). Buechler (2009) defined resource identification as the process of enumerating, enlisting and assessing the availability and utilization thereof. Education sector notwithstanding, resources aid in the effective transfer of content and particularly to early learners Karaka (2007) and Fabian (2007). Cuthbert (2011) highlights the importance of stakeholders in resource identification and mobilization. On the other hand, Chiter (2012) is of the view that resource mobilization encompasses the process seeking new sources of resource mobilization, right and maximum use of the available resources. Studying the various structure and areas of resource mobilization is to seeking out resources that are essential and can be used to achieve one's mission and it

maximum use. He further cites that resource mobilization does not only mean use of money but its extensiveness denotes that achieves the mission of the organization through the mobilization of knowledge in human, use of skills, equipment and services.

Essential science skills such as observing, classifying, and sorting begin to develop as early as infancy and advances with age (Piaget and Inhelder, 2000; Eshach and Fried, 2005). Lack of needed stimuli experienced in science learning may result in a child's development not reaching its full potential (Hadzigeorgiou, 2002). Thus, science education in early childhood is of great importance to many aspects of a child's development, and should begin during the early years of schooling (Watters, Diezmann, Grieshaber, and Davis, 2000). Importantly, quality science learning experiences provide a solid foundation for the subsequent development of scientific concepts that children will encounter throughout their academic lives (Eshach and Fried, 2005). Supporting children to develop scientific thinking during the early childhood years can lead to easily transfer their thinking skills to other academic domains which may support their academic achievement (Kuhn and Pearsall, 2000).

Preschool science is enjoying renewed attention in the United States among those concerned with prekindergarten education and with improving scientific literacy and achievement among the nation's citizens. The National Association for the Education of Young Children (NAEYC, n.d.) holds that children should be provided various opportunities and materials to learn key content and principles of science. Most U.S. states have articulated learning expectations for preschool science, either as a stand-alone area or as part of expectations for general cognition and language (Snow and Van Hemel, 2008). Curricula, policy statements, and funding commitments reflect beliefs that early exposure to science study concepts will lead to increased comfort with them later in life and that early experiences are critical both for school readiness and as foundations for future learning (Beering, 2009). These ideas are attractive given well-established findings of the critical impact of early learning experiences on long-term educational and societal outcomes, especially among underserved populations (Barnett, 2008). Given these findings, it is reasonable to hypothesize that the provision of high-quality science learning experiences early in development will pay off with increased long-term achievement in, and student engagement with, science (National Research Council, 2005). However, a recent large-scale study in Florida suggests, school readiness in science lags behind other domains (Greenfield, Jirout, *et al.*, 2009).

Section 9 of the fourth schedule of the constitution of Kenya (promulgated in 2010), outlines pre-primary education, as a function of County government. County government thus has a responsibility on budgetary allocation for physical infrastructure, remuneration of ECD teachers and some materials. According to Otwoma (2006), school-community partnership enables the school and the community to share the responsibility of running the schools and helping the child to achieve the aim of education without which neither the school nor the community can benefit. Moreover, participation and inclusiveness of parents, communities, private sector and other stakeholders in the development and management of basic education is a key principal of Basic Education Act, 2013 (Republic of Kenya, 2013). In recognition of importance of stakeholder collaboration, Kenya adopted Cost Sharing Policy in the education sector in 1988 following recommendations of Report of the Presidential Working Party on Education and Manpower Training for The Next Decade and Beyond: popularly called The Kamunge Report and Sessional Paper No. 6, where parents were to meet the cost of tuition, textbooks and activity fund.

According to Otwoma (2006), school-community partnership enables the school and the community to share the responsibility of running the schools and helping the child to achieve the aim of education without which neither the school nor the community can benefit. While the County government have obligation to allocate part of their spent to pre-school learning, parent, International Aid agencies and other development partners have put so much effort in finding and supporting programmes. Despite, science learning experiences at pre-school considered to provide solid foundation for the subsequent development of scientific concepts that children will encounter throughout their academic lives (Eshach and Fried, 2005) and the multispectral effort in science subject in preschool, average performance in science subject in Kenya Certificate of Primary Education in Kisumu West sub-county still lags behind other subjects. This presents a gap that this study seeks establish by answering the questions related to the participation of stakeholders in provision of materials for science learning at pre-school level.

Quality science learning in early years' education (EYE) experiences provide a solid foundation for the subsequent development of scientific concepts that children will encounter throughout their academic lives. Section 9 of the fourth schedule of the constitution of Kenya (promulgated in 2010), outlines pre-primary education, as a function of County government. County government thus has a responsibility on budgetary allocation for physical infrastructure, remuneration of EYE teachers and some materials. However, available evidence suggest that EYE centers do not have sufficient and age appropriate resources for science activities. Anecdotal evidence suggest that stakeholder collaboration may have positive effect on resource mobilization in EYE. However, few empirical studies have investigated the effects of stakeholder collaboration on resources

mobilization for science activities in early years' education in a devolved system of governance like the one obtaining in Kenya.

II. Literature Review

Stakeholder Collaboration

Stakeholder collaboration was defined operationally as stakeholder participation strategy that promotes cooperation, enhances resource sharing, promotes unity, enhances collective responsibility and promotes concerted efforts among early years' education stakeholders. A number of empirical studies suggest that stakeholder collaboration has significant positive effects on resources mobilization for science activities in early years' education (Saravanamuthu (2018; Reisert, Ryan and Köppel 2015; Balram, Dragicevic and Meredith 2003; Darling and Monk 2018; O'Malley, Woods-Jaeger and Dowd 2017).

Saravanamuthu (2018) investigated how risk information and stakeholder participation affect the sustainability of collaborative decisions. Data for this study was collected using interview schedules and analysis conducted using content analysis. The target population for the study included decision makers and managers in technology related institutions. The study found that stakeholder collaborative strategies promotes cooperation and increases the chances of reducing risk information among stakeholders. The findings of the study suggest that collaborative decisions are critical to organizational risk management and sustainability. The study findings also suggest that collaborative decision making engender trust and confidence among stakeholders. Whereas the focus of the present study was on assessing the influence of risk information and stakeholder participation on sustainability of collaborative decisions, the current study investigated the influence of stakeholder collaboration on resource mobilization for science activities in early years' education.

Reisert, Ryan and Köppel (2015) assessed the influence of stakeholder participation in collaborative watershed planning in Washington State. Documents were reviewed and managers and stakeholders in watershed planning units in the State were interviewed. The study found that stakeholder collaboration in watershed planning units promoted not only inclusive representation of stakeholders but also significantly improved the quality of watershed planning units but also fostered community funding for watershed leading to sustainability of watershed plans and programs. These results suggest that stakeholder collaboration has a positive effect on resource mobilization, including funding for watershed planning units and programmes. The findings of the study are relevant to the current study. Whereas the study assessed the influence of stakeholder participation in collaborative watershed planning, the current study investigated the influence of stakeholder collaboration in resource mobilization for science activities in early years' education.

Balram, Dragicevic and Meredith (2003) examined the relationship between stakeholder collaboration and decision making in a complex collaborative geographical information systems (GIS). Delphi research design was used to seek the perspectives of experts on the relationship between stakeholder collaboration and decision making in complex GIS. The study found that collaboration among stakeholders involved in a designing and implementing the complex GIS system had a significant positive influence in faster decision making, which improved the time needed to design and implement the complex GIS. The study also found that stakeholder collaboration also promoted unity and interdependence among the stakeholders. The findings of this study is relevant to the current study which also examined the influence of stakeholder collaboration on resource mobilization for science activities in early years' education. The current study investigated the extent to which the findings of the study by Balram, Dragicevic and Meredith (2003) are consistent with the results of the current study.

Darling and Monk (2018) conducted an action research to assess the impact of collaborative process involving educators implementing restorative practices in schools in California, USA. The results of the in-depth case indicate that collaborative processes among the teachers reduced the time needed for implementing restorative practices in the Californian schools and enabled the teachers to have a sense of collective responsibility for the implementation of the restorative practices. Whereas the study by Darling and Monk (2018) assessed the impact of collaborative process involving educators implementing restorative practices in schools, the current study investigated the association between stakeholder collaboration and resource mobilization for science activities in early years' education. The current study also investigated the extent to which its findings are consistent or inconsistent with the results of the study done by Darling and Monk (2018).

O'Malley, Woods-Jaeger and Dowd (2017) explored how collaborative efforts in a children's hospital and an early childhood education and social center fostered and leveraged the strengths of the different staff and managers in the hospital and the early childhood center towards improvement of services for the children in the two facilities. The study found that collaboration between the staff and managers in the hospital and the early childhood education and social center led to improvements in the provision and quality of services for the children including shelter, safety, food, education and health care. Collaborative also led to the expansion of the services provided to the children. The study also found that the collaboration also improved the level of trust and partnership among the staff in the hospital and early childhood education and care center. The current study

investigated the extent to which the findings are consistent with the findings of the study by O'Malley, Woods-Jaeger and Dowd (2017).

Resources Mobilization for Science Activities in Early Years' Education Programmes

Resources Mobilization for Sciences Activities in Early Years Education was defined operationally as availability of right learning and teaching resources, accessibility of learning and teaching resources, utilization of learning and teaching resources, enhanced safety of early years' classrooms, improved performance in science activities learning and teaching in early years' education. A number of empirical studies suggest that consultative stakeholder participation may have significant positive effects on resources mobilization for science activities in early years' education (Dinnebeil, Pretti-Frontczak and McInerney 2009; Case-Smith and Holland 2009; Frankel 2004; DeVore, Miolo and Hader 2011).

Piper, Merseth and Ngaruiya (2018) investigated whether and how counties go beyond the basic provision of facilities and teachers to invest in learning materials, expand teacher professional development, and hire coaches to improve the quality of teaching. The mixed methods study was conducted in the 47 counties in Kenya and used the Tayari Model, a model for assessing the readiness of preschool children and the resources available for early years teaching and learning in Kenya. The target population were ECDE policy makers at national and county levels in Kenya. Data was collected using questionnaire and interview schedule. Data was analysed qualitatively and quantitatively. The results of the study suggest that the readiness of preschool children are affected by the limited learning resources in the ECDE learning centers, quality of teaching and learning and poor supervision in the ECDE centers in the county. The study recommended that, since ECDE is a devolved function in Kenya, county governments have to ensure sufficient learning and teaching resources and support the early years' instructors through quality supervision.

Bhengu and Svosve (2019) explored how school heads enhanced resources mobilization in remote rural ECD schools through school-community partnerships in order to improve teaching and learning conditions. The multi-case study that was conducted in four remote rural early childhood development (ECD) schools located in the Chiredzi district, in Masvingo province, Zimbabwe. Semi-structured interviews were conducted with the school heads, deputy heads and teachers in charge. Document reviews and observations were also used to augment data from interviews. Invitational leadership was used as an analytic tool for the study. The findings suggest that the school heads succeeded to some degree in bringing parents and various stakeholders to the ECD schools to deal with the challenges facing them. Various strategies were used including tapping into local knowledge to ensure that parents who could afford to pay fees managed to do so.

Narwana (2015) explored the challenges that public schools in India face in resources mobilization for learning and teaching, and the extent to which community based programmes address these challenges. Data was collected using primary field survey and semi-structured interviews with different stakeholders in a village in Haryana, India. The findings of the study suggest most public schools in India are struggling with mobilizing resources for learning and teaching. Community based organizations that are responsible for supporting public schools to mobilize resources have not aligned their resources mobilization strategies with the needs of public schools. Moreover, socio-cultural issues including the rigid caste system, the divide between the rich and the poor in India, have adverse effects on stakeholder mobilization and participation, which further impede the ability of the public schools to have sustainable ways of mobilizing resources for learning and teaching. The study argues that the current idealization of community participation can be problematic if we fail to imbibe the social and local ethos of specific region.

Hue (2017) investigates how fourth generation NGOs formulate and execute their communication strategies to achieve organizational goals, including how the NGOs use strategic communication to mobilize stakeholder support for resource mobilization. An in-depth case study approach was used. The results of the study indicate that strategic communication with stakeholders is critical for sustainable resources mobilization. The study recommends that nonprofit organizations with limited resources for their operations should focus a lot of attention on strategic communication including targeting of critical stakeholders and organizations with the keys to unlock resources for their critical mission activities.

Wadell, Bengtson and Åberg (2019) investigated the impact of customer attractiveness on supplier resource mobilization during radical changes such as bankruptcy. The study further assessed how the bankruptcy estate managed resource mobilization necessary for maintaining the bankrupt company's facility from the time of declaration of bankruptcy until the facility could be sold to a new owner, providing a detailed description of how the bankruptcy estate attracted suppliers despite the bankrupt company's previous losses. The findings show that attractiveness is a valid theoretical tool in order to understand resource mobilization also in situations that lack social aspects of relationships. Furthermore, the study shows that resource embeddedness and knowledge transfer affect customer attractiveness and impact supplier resource mobilization.

III. Research Methodology

Study Location: The study was carried out in public early years education centers in Kisumu West Sub County in Kisumu County, Kenya. Kisumu County has a geographical area of 565 Km² on land and 410 Km² under water of Lake Victoria. It lies between latitude 0,20°s and 0°, 50°s of equator and Longitude 33°,20° E and 35°, 20° E. It borders Kisumu Central to the South; Seme to the West; Lake Victoria to the East, and Aldai Sub County to the North. Appendix V presents the map of the area. The Sub County is partly urban and rural, with a population of diverse backgrounds and tribes. This therefore makes the area suitable for a study that aims to establish the influence of SBP on provision of science materials for learners aged between 5 and 6 years old. This is due to the fact that family background contributes a lot to parental participation in the education of children, and diversity of background presents different challenges in behaviour (Lewis, et al., 2010).

Research Design: The design of this study was cross-sectional. This design entails the collection of data in multiple cases at single point in time. The cross sectional design is fundamentally designed to study some research elements by taking a cross sectional look of at one time (Babbie, 2014). This study made the most use of this design as it enabled the researcher to collect data within a comparably shorter duration and in a cost saving fashion. According to Kothari (1985), cross sectional design is based on observations made at one point in time. Kothari (1985) posits that cross-sectional design collects data in a single point in time from a sample drawn from a cross section of the population. This design was therefore adopted because it is comparatively quicker to collect data within the constraints of time and resources. Moreover, cross-sectional design was appropriate for this study as it involves gathering data or obtaining information about preference, attitudes, practices and concerns from a sample of a population at a particular time (Macmillan and Schumacher, 2010). The design is therefore appropriate for the study as it allows data to be collected in a single point in early years' education centers. Cross-sectional design was also the most appropriate design for the study since the target population was diverse with individual differences, in terms of age, gender, education.

Sample Size and Sampling Procedures: Sample size is defined as the count of the individual samples or observations in any statistical setting also define sampling selection as the procedures used in selecting a population sample (Babbie (2014)). The sample size for this study is 297 drawn from a target population of 1,221, made up of 14 county executive committee members, 10 accounting officers, 15 departmental directors, 6 sub-county administrators, 30 ward administrators, 440 early years' education (EYE) management committee members, 700 EYE instructors and 6 EYE coordinators. Krecjie and Morgan (1970) sample estimation table has been used in determining the appropriate sample size for this study. Stratified random sampling procedure was used in this study.

According to (Babbie (2014)), stratified random sampling is a method of sampling that involves the division of the population into smaller groups called strata. Stratified random sampling or stratification, the strata are formed based on the member's shared attributes or characteristics (Babbie (2014)). Stratified random sampling involves dividing the entire population into homogenous groups, thereafter random samples are selected from each stratum (Babbie (2014)). Stratified random sampling ensures that each sub-group of a given population is adequately represented. (Babbie (2014) differentiated two types of stratified sampling: proportionate stratified method and disproportional stratified sampling method. In a proportionate stratified method, the sample size for each stratum is proportionate to the population size of the stratum. In a disproportional sampling method, the size of each stratum is not proportionate to its size in the population. Proportionate stratified method was adopted in this study. The main advantage of stratified random sampling is that it captures the population characteristics in the sample (Babbie (2014)). This method also produces characteristics that are proportional to the overall population. This method was adopted in this study since it works well with a population with a variety of attributes.

Data Collection Instruments : A self-administered questionnaire was used to collect data. The self-administered Stakeholder Participation in Resources Mobilization for Science Activities Questionnaire has six sections. The questionnaire was used to collect quantitative data on the influence of the monitoring and evaluation approaches on Resources Mobilization for Science Activities. The Questionnaire had six sections A-F. Section A seeks information on the demographic profile of the research participants. Sections B to F of the Questionnaire has five Likert scale statements on the independent and dependent variable. Section B sought information on the effects of Collaborative Stakeholder Participation on the Resources Mobilization for Science Activities. Section C sought information on the effects of participative Stakeholders Strategy on the Resources Mobilization for Science Activities. Section D sought information on the effects of Empowering Stakeholder Participation on Resources Mobilization for Science Activities. Section E sought information on the effects of Consultative Stakeholder Participation on performance on Resources Mobilization for Science Activities and section F sought information on Resources Mobilization for Science Activities.

Pilot Testing of Instruments: The research instrument was pre-tested in Kisumu East Sub-County, Kisumu County. The requirement for pilot study is fundamental to ensuring the success of a study (Kothari, 2004). The pilot study was initiated for the purposes of conducting an assessment of the suitability or appropriateness of the research design and the questionnaire to be used. It was from the pilot testing phase that the researcher was able to gauge the depth of interviewees' understanding with regard to the questions posed in the instrument. In addition, pilot testing enabled the discovery of any inherent weaknesses in the questionnaires or the survey technique. Pre-testing was also a mean for gauging the time needed to administer the questionnaire. The pilot testing facilitated the identification of the key issues that needed to be addressed before the final study was conducted. Conventionally, it is advisable to sample 10% of the target population for the pre-test exercise (Kothari, 2004). Accordingly, the study pretested use 29 questionnaires. The pre-testing was administered among the members of the EYE management committees, since their principal duty is resources mobilization for early years' education centers and programmes.

Validity and Reliability of Instruments: Validity refers to the degree to which evidence and theory support the interpretation of test scores entailed by use of tests (Kothari, 2004). Content validity of the questionnaires was determined from the reviews and feedback of the supervisors on the adequacy of the appropriateness and adequacy of the contents in the questionnaires. The supervisors are experts in questionnaire construction and have professional in determining the adequacy and appropriateness of research questionnaires. The feedback from the supervisors were taken into consideration when reviewing the questionnaire and the interview guide. Reliability is the ability of a research instrument to consistently measure characteristics of interest over time (Kothari, 2004). Reliability of the research instruments was assured through pre-testing. The research instruments were pre-tested in Kisumu East Sub-County in Kisumu County. Kothari (2004) advises that it is always advisable to conduct a pilot study. A pilot investigation was first conducted in order to assess the adequacy of the research design and of the questionnaire to be used such as to determine whether the anticipated respondents understands the questions asked in the instrument. Furthermore, a pilot survey brings to light the weaknesses of the questionnaires and of the survey techniques. Pilot testing enabled the researcher to identify issues with the questionnaires which were addressed before the final study. Pre-testing enabled the researcher to estimate the time that it would take to administer each questionnaire. Kothari also advises that 10% of the sample is sufficient for pilot testing. Based on this advice, the study pretested use 29 questionnaires. The pre-testing was administered among the members of the EYE management committees, since their principal duty is resources mobilization for early years' education centers and programmes.

Data Collection Procedure: The University of Nairobi issued the researcher with a letter clearing the researcher to obtain a research permit. After the issuance of the clearance letter from the University, an application letter for a research permit was obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Once the research permit was issued, the researcher informed the County Commissioner and the Department of Basic Education at the County about the intention to carry out the research. The County Government was also informed about the purpose of the study. The researcher asked the County Secretary to inform the County Human Resource Director about the study. The Human Resource Director provided the contact of the staff to be interviewed and also informed them about the study; and asked the targeted research participants to support the study. Once the respondents were identified, their consent to participate in the study was required. The researcher also explained the purpose of the study to the respondents after seeking their consent. The questionnaires were thereafter administered and collected soon after ensuring that all the sections had been duly completed.

Data Analysis Techniques: Both descriptive and inferential analyses were conducted. Descriptive statistics included frequencies, means, standard deviations. Inferential statistics included correlation and regression analyses. The inferential statistics determine the associations or relationships between the stakeholder participation and resources mobilization for science activities. Quantitative data were entered in the Statistical Packages for Social Sciences (SPSS). Unique identifiers were given to each questionnaire before entry to assure confidentiality of the respondents.

Ethical Considerations of the Study: Ethical consideration is paramount for every study. Ethical issues apply to all research approaches and to every stage of research that is, in the identification of the research problem, data collection, data analysis and interpretation, and lastly in the writing and dissemination of the research (Creswell and Poth, 2014). Ethical issues involved matters of access, confidentiality and anonymity of the participants, the participants' consent as well as legal issues like intellectual ownership, confidentiality, privacy, access and acceptance (Johnson and Christensen, 2008). The researcher assured confidentiality and sought informed consent and ensured the autonomy of the research participants.

IV. Results

Questionnaire Return Rate: The sample size for this study was 290. However, seventeen respondents opted not to participate in the study, thereby reducing the number by research participants to 280. The total number of questionnaires that were filled and returned were 280. The return rate was therefore 96.5%. Table 4.1 summarizes the questionnaire return rate.

Table 1: Questionnaire Return Rate

Sample size	Questionnaires filled	Percent return rate (%)
290	280	96.5%

Background Information of the Research Participants: The study sought information on demographic profiles of the research participants. Table 4.2 presents demographic profile data of the research participants.

Table 2: Distribution of Demographic Characteristics of Respondents

Number of respondents N=280			
		Frequencies	Percentage
Gender of the respondents	Male	113	40.4
	Female	167	59.6
	Total	280	100.0
Age of the respondents	18-20	5	1.8
	21-25	22	7.9
	26-30	61	21.8
	31-35	64	22.9
	36-40	59	21.1
	41-45	38	13.6
	Above 45 years	31	11.1
Total	280	100.0	
Marital status	Married	187	66.8
	Widowed	29	10.4
	Divorced	7	2.5
	Not married	57	20.4
	Total	280	100.0
Highest Educational Qualification	PhD	3	1.1
	Masters	25	8.9
	Bachelor's	44	15.7
	Diploma	100	35.7
	Secondary school	89	31.8
	Primary	19	6.8
	Total	280	100.0
Position in the county	Executive committee members	5	1.8
	Chief officers		
	Directors	6	2.1
	Sub-county administrators	12	4.3
	Ward administrators	5	1.8
	Project managements committee member	23	8.2
	ECDE coordinators		
	ECDE Instructor(teacher)	101	36.1
		7	2.5
		121	43.2
Total	280	100.0	

Table 2 presents the distribution of demographic characteristics of respondents. The demographic questionnaire for stakeholder participation in resource mobilization for science activities in early years' education sought information on gender of the respondents, their age bracket, marital status, highest educational qualification and position held in the County. Out of the 280 respondents, 167(59.6%) were female and 113(40.4%) were male suggesting that majority of those interviewed were female. It is also an indication that county government of Siaya the government has embraced gender equity and women empowerment. On the age bracket findings, majority of the respondents who filled in the questionnaire were 64(22.9%) aged between 31-35years; 61(21.8%) aged between 26-30years; 59(21.1%) aged between 36-40 years; 38(13.6%) aged between 41-45years; 31(11.1%) aged above 45 years; 22(7.9%) aged between 21-25 years and 5(1.8%) aged between 18-20 years. The findings on marital status suggested that out of 280 respondents, majority 187(66.8%) were married, 57(20.4%) were not married, 29(10.4%) were widowed and 7(2.5%) were divorced. Findings on highest educational qualification indicated that 100(35.7%) were diploma holders, 89(31.8%) secondary school, 44(15.7%) degree holders, 25(8.9%) masters and 3(1.1%) PhD holders. This indicates the county has embraced

formal education as the figures shows relatively high literacy level among the respondents. Lastly on the demographic characteristics, findings revealed that out of the 280 respondents, 121(43.2%) were ECDE instructors, 101(36.1%) were Project management committee members, 23(8.2%) were ward administrators, 12(4.3%) directors, 6 (2.1%) Chief officers, 5(1.8%) county executive and 5(1.8%) sub- county administrators.

Descriptive Analysis of Resource Mobilization for Science Activities Programmes

The dependent variable for this study was resource mobilization for science activities. To measure research participants’ perspectives on resource mobilization for science activities, five statements on the indicators were developed in the self-administered questionnaire using a five likert scale.

Table 3 Descriptive Statistics of Resource Mobilization for Science Activities Programmes

Statement	SD	D	N	A	SA	Mean	SD
SPRMSA 1-Stakeholder participation ensures availability of right science activities learning and teaching resources	26(9.3%)	65(23.2%)	69(24.6%)	73(26.1%)	47(16.8%)	3.1786	1.22850
SPRMSA 2-Stakeholder participation improves accessibility of science activities learning and teaching resources	21(7.5%)	69(24.6%)	81(28.9%)	72(25.7%)	37(13.2%)	3.1250	1.14945
SPRMSA 3-Stakeholder participation enhances utilization of science activities learning and teaching resources	10(3.6%)	36(12.9%)	99(35.4%)	95(33.9%)	40(14.3%)	3.4250	1.00255
SPRMSA 4-Stakeholder participation enhances safety of early years’ education science activities classrooms	6(2.1%)	25(8.9%)	91(32.5%)	111(39.6%)	47(16.8%)	3.6000	0.94129
SPRMSA 5-Stakeholder participation improves performance in science activities learning and teaching.	14(5.0%)	32(11.4%)	73(26.1%)	118(42.1%)	43(15.4%)	3.5143	1.04374

Table 3 presents the descriptive statistics on the perspective of the research participants on stakeholders’ participation on resource mobilization for science activities. Item SPRMSA 1 sought to establish to what extent SPRMSA 1-Stakeholder participation ensures availability of right science activities learning and teaching resources. Out 280 respondents who responded to the item, 73(26.1%) agreed, 69(24.6%) were neutral, 65(23.2%) disagreed with the statement, 47(16.8%) strongly agreed and 26(9.3%) strongly disagreed. The mean for item SPRMSA 1 was 3.1786 and the standard deviation was 1.22850, suggesting that majority of the respondents agreed that stakeholder participation ensures availability of right science activities learning and teaching resources.

Item SPRMSA 2 sought to establish to what extent stakeholder participation improves accessibility of science activities learning and teaching resources. Out 280 respondents who responded to the item, 81(28.9%) were neutral, 72(25.7%) agreed with the statement, 69(24.6%) disagreed, 37(13.2%) strongly agreed and 21(7.5%) strongly disagreed. The mean for item SPRMSA 2 was 3.1250 and the standard deviation was 1.14945, suggesting that majority of the respondents agreed that stakeholder participation improves accessibility of science activities learning and teaching resources.

Item SPRMSA 3 sought to establish to what extent stakeholder participation enhances utilization of science activities learning and teaching resources. Out 280 respondents who responded to the item, 99(35.4%) were neutral, 95(33.9%) agreed, 40(14.3%) strongly agreed with the statement, 36(12.9%) disagreed and 10(3.6%) strongly disagreed. The mean for item SPRMSA 3 was 3.4250 and the standard deviation was 1.00255, suggesting that majority of the respondents gave a neutral response that stakeholder participation enhances utilization of science activities learning and teaching resources.

Item SPRMSA 4 sought to establish to what extent stakeholder participation enhances safety of early years’ education science activities classrooms. Out 280 respondents who responded to the item, 111(39.6%) agreed, 91(32.5%) were neutral, 47(16.8%) strongly agreed with the statement, 25(8.9%) disagreed and 6(2.1%) strongly disagreed. The mean for item SPRMSA 4 was 3.6000 and the standard deviation was 0.94129, suggesting that majority of the respondents agreed that stakeholder participation enhances safety of early years’ education science activities classrooms.

Item SPRMSA 5 sought to establish to what extent stakeholder participation improves performance in science activities learning and teaching. Out 280 respondents who responded to the item, 118(42.1%) agreed, 73(26.1%) neutral, 43(15.4%) strongly agreed with the statement, 32(11.4%) disagreed, and 14(5.0%) strongly disagreed. The mean for item SPRMSA 5 was 3.5143 and the standard deviation was 1.04374, suggesting that

majority of the respondents agreed that stakeholder participation improves performance in science activities learning and teaching.

Descriptive Analysis of Stakeholder Collaborative Strategy in Early Years Education Programme

The study sought to establish the frequencies, percentages, means and standard deviation on the stakeholders’ collaboration influence on resource mobilization for science activities in early years’ education.

Table 4: Descriptive Statistics on of Stakeholder Collaborative Strategy in Early Years Education Programme

Statement	SD	D	N	A	SA	Mean	Sd
CSP1-Collaborative resource mobilization promotes cooperation among early years’ education stakeholders.	8(2.9%)	9(3.2%)	29(10.4%)	113(40.4%)	121(43.2%)	4.1786	0.94484
CSP2-Collaborative resource mobilization enhances sharing of resources and expertise among early years’ education stakeholders.	5(1.8%)	18(6.4%)	42(15.0%)	128(45.7%)	87(31.1%)	3.9786	0.93875
CSP3-Collaborative resource mobilization promotes unity among early years’ education stakeholders.	3(1.1%)	29(10.4%)	60(21.4%)	115(41.1%)	73(26.1%)	3.8071	0.97566
CSP4-Collaborative resource mobilization enhances collective responsibility among early years’ education stakeholders.	6(2.1%)	17(6.1%)	50(17.9%)	127(45.4%)	80(28.6%)	3.9214	0.94712
CSP5-Collaborative resource mobilization promotes concerted efforts among early years’ education stakeholders.	45(16.1%)	56(20.0%)	59(21.1%)	87(31.1%)	33(11.8%)	3.0250	1.27679

Table 4 presents the descriptive statistics on the perspective of the research participants on collaborative stakeholder participation and resource mobilization for science activities in early years’ education. Item CSP 1 sought to establish to what extent collaborative resource mobilization promotes cooperation among early years’ education stakeholders. Out 280 respondents who responded to the item, 121(43.2%) strongly agreed, 113(40.4%) agreed with the statement, 29(10.4%) were neutral, 9(3.2%) disagreed and 8(2.9%) strongly disagreed. The mean for item CSP 1 was 4.1786 and the standard deviation was 0.94484, suggesting that majority of the respondents strongly agreed that Collaborative resource mobilization promotes cooperation among early years’ education stakeholders.

Item CSP 2 sought to establish to what extent Collaborative resource mobilization enhances sharing of resources and expertise among early years’ education stakeholders. Out 280 respondents who responded to the item, 128(45.7 %) agreed, 87(31.1.4%) strongly agreed with the statement, 42(15.0%) were neutral, 18(6.4%) disagreed and 5(1.8%) strongly disagreed. The mean for item CSP2 was 3.9786 and the standard deviation was 0.93875, suggesting that majority of the respondents agreed that collaborative resource mobilization enhances sharing of resources and expertise among early years’ education stakeholders.

Item CSP 3 sought to establish to what extent Collaborative resource mobilization promotes unity among early years’ education stakeholders. Out 280 respondents who responded to the item, 115(41.1%) strongly agreed, 73(26.1%) agreed with the statement, 60(21.4%) were neutral, 29(10.4%) disagreed and 3(1.1%) strongly disagreed. The mean for item CSP 3 was 3.801 and the standard deviation was 0.97566, suggesting that majority of the respondents strongly agreed that Collaborative resource mobilization promotes unity among early years’ education stakeholders.

Item CSP 4 sought to establish to what extent collaborative resource mobilization enhances collective responsibility among early years’ education stakeholders. Out 280 respondents who responded to the item, 127(45.4%) agreed, 80(28.6%) strongly agreed with the statement, 50(17.9%) were neutral, 17(6.1%) disagreed and 6(2.1%) strongly disagreed. The mean for item CSP 4 was 3.9214 and the standard deviation was 0.94712, suggesting that majority of the respondents agreed that the collaborative resource mobilization enhances collective responsibility among early years’ education stakeholders.

Item CSP 5 sought to establish to what extent collaborative resource mobilization promotes concerted efforts among early years’ education stakeholders. Out 280 respondents who responded to the item, 87(31.1%)

agreed, 59(21.1%) neutral, 56(20.0%) disagreed with the statement, 45(16.1%) strongly disagreed, and 33(11.8%) strongly agreed. The mean for item CSP A5 was 3.0250 and the standard deviation was 1.27679, suggesting that majority of the respondents agreed that collaborative resource mobilization promotes concerted efforts among early years' education stakeholders.

Correlation Analysis of Stakeholders' Collaborative Strategy and Resources Mobilization for Science Activities in Early Years' Education Programme

Pearson product moment correlation coefficient was used to establish the existence or non-existence of significant relationship as well as the degree or strength of association between collaborative stakeholder participation and resource mobilization for science activities in early years' education, based on the perspectives of the research participants.

Table 5: Correlations Statistics of Stakeholders Collaboration and Resources Mobilization for Science Activities in Early Years' Education Programme

		Resource Mobilization for Science Activities in Early Years' Education	Collaborative Stakeholder Participation
Resource Mobilization for Science Activities in Early Years' Education	Pearson Correlation	1	.395**
	Sig. (2-tailed)		.000
	N	280	280
Collaborative Stakeholder Participation.	Pearson Correlation	.395**	1
	Sig. (2-tailed)	.000	
	N	280	280

** Correlation is significant at the 0.01 level (2-tailed).

Table 5 presents correlations Statistics on collaborative stakeholder participation and resource mobilization for science activities in early years' Education. The analysis shows a moderately weak correlation between independent variable collaborative stakeholder participation and resource mobilization for science activities in early years' education with a $r=0.395$ $P<0.01$). The findings showed that there was statistical significance between collaborative stakeholder participation and resource mobilization for science activities in early years' education. The findings are inconsistent with the findings of other empirical studies that suggest that there is significant relationship between collaborative stakeholder participation and resources mobilization for science activities in early years' education (Saravanamuthu (2018; Reisert, Ryan and Köppel 2015; Balram, Dragicovic and Meredith 2003; Darling and Monk 2018; O'Malley, Woods-Jaeger and Dowd 2017).

Regression Analysis of Stakeholders Collaboration and Resources Mobilization for Science Activities in Early Years' Education Programme

To find the amount of variation in resource mobilization for science activities in early years' education programme, which explains its association with collaborative stakeholder participation, the coefficient of determination (R^2) was computed. The coefficient was also computed to help in understanding or explaining the amount of variation in resource mobilization for science activities in early years' education.

Table 6: A Model Summary
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.395 ^a	.156	.153	.86949

- a. Predictors: (Constant), Collaborative Stakeholder Participation.

Table 6 is the model summary of the association between collaborative stakeholder participation and resource mobilization for science activities in early years' education. The above model summary table indicates that there is a positive multiple correlation coefficient ($R=0.395$) between resource mobilization for science activities in early years' education and collaborative stakeholder participation and those predicted by the regression model. In addition, the coefficient of determination ($R^2=15.6\%$) suggests that the amount of variance in resource mobilization for science activities in early years' education is explained by collaborative stakeholder participation. The findings of the summary model are consistent with the findings of studies that found significant relationship between collaborative stakeholder participation and resources mobilization for science

activities in early years' education (Saravanamuthu (2018; Reisert, Ryan and Köppel 2015; Balram, Dragicevic and Meredith 2003; Darling and Monk 2018; O'Malley, Woods-Jaeger and Dowd 2017).

V. Discussion

The purpose of the study was to establish the relationship between stakeholder collaboration and resources mobilization for science activities in early years' education programme in Kisumu West Sub-County, Kenya. The analysis shows a moderately weak correlation between stakeholder collaboration and resources mobilization for science activities in early years' education programme with a $r=0.395$ $P<0.01$). This indicates that there is statistical significance between the two variables. The coefficient of determination 0.39(3.95%) suggests that stakeholder collaboration accounted for only 3.95 % of resource mobilization for science activities in early years' education while the remaining 96.05% could be as a result of other factors. The findings of the summary model are consistent with the findings of studies that found significant relationship between stakeholder collaboration and resources mobilization for science activities in early years' education programmes (Saravanamuthu (2018; Reisert, Ryan and Köppel 2015; Balram, Dragicevic and Meredith 2003; Darling and Monk 2018; O'Malley, Woods-Jaeger and Dowd 2017).

VI. Conclusions

The findings of this study will assist the county governments to formulate a more focused stakeholder participation strategy for resource mobilization for science activities early years' education and to ensure sustainable financing of teaching and learning resources in early years' education programmes. Finally, the findings of this will contribute to further research on stakeholder participation in resource mobilization for sustainable development in devolved governments in and outside Kenya. The study found statistically significant association between stakeholder participation s and resource mobilization for science activities. The study recommends that the county governments in Kenya should strengthen stakeholder collaboration strategies in their early years' education programmes to ensure sustainable resources for early years' science activities. It is also recommended that stakeholder collaboration strategies should be integrated in the design and implementation of the early years' education programmes in devolved early years' education programmes in Kenya.

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