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Abstract

This study was intended to explore the relationship between Early Childhood Education and primary school learners' academic performance. The research was guided by the three objectives: to describe early childhood education developed skills in Nyamasheke District, Rwanda; to compare the academic performance of primary school learners with and without early childhood education in Nyamasheke District, Rwanda and to ascertain the relationship between early childhood education and primary school learners' academic performance in Nyamasheke District, Rwanda. The correlative research design methodology was used to establish relationship between early childhood education and primary school learners' academic performance. The target population was composed of 318 participants from 74 schools with primary and early childhood education in Nyamasheke district. Yamane (1967) served in determining the sample size which was 177 respondents. Data collection instruments comprised of questionnaires to ECE and Primary teachers, interviews for head teachers and observation of ECE teaching and learning activities. The findings of the study indicated that early childhood education development enhances children's moral development, socialization, cooperation, tolerance, emotional growth, intellectual development and physical fitness where teachers agreed providing their perception at an average rate of 79.4 per cent. The study further revealed that primary school learners' academic performance is greater if children have done early childhood education than when they entered primary school without ECE. Furthermore, the findings revealed there exists a low positive correlation between early childhood education and primary school learners' academic performance. The correlation coefficient $r=0.491$ was identified with the p- value of .000 of a two- tailed. The study concluded that early childhood education facilitated primary learners to be prepared for academic performance and improve their performance. Children who have done early childhood education are more likely to attend class regularly, participate more in learning activities and score higher grade in primary school as compared to their peers who did not have access to ECE. The study recommended early childhood education should be provided with facilities for so that all children get this kind of education.

Keywords: *Early Childhood Development, Early Childhood Education, Kindergarten, Nine Years Basic Education, Preschool, Nursery school, Twelve Years Basic Education*

1.0 INTRODUCTION

According to Aleksov (2018), early childhood education has globally got its roots far back into history for over 2000 years. He shows that philosophers, psychologists and educationists have put in lots of efforts in discovery of justification and process of teaching young children. Aleksov (2018) continues describing Plato, (428-348 BC) a major Greek philosopher's teachings that all human beings were endowed, from birth with a definite quantity of knowledge, and thus the purpose of educating them was a reminding about the worldly interpretation and conceptualization. The philosopher identified play necessary in predicting society. If any kids were to develop into tailors, he obliged they would start with tailoring plays. He describes Martin Luther (1483-1546) who advocated for children, both boys and girls to be educated so as for independently get access to the Bible. John Amos Comenius (1592-1670) is viewed as having been the first to publish the picture book dedicated to young children. And Froebel (1782-1852), an educationist from Germany has originated a school for young children in 1837. Froebel had an idea to strengthen social values among children and give them a notion on basic calculation, songs, dances and formal literacy, in addition to the home acquired skills.

According to Madani (2019), Education for All policy (EFA) was initiated during the international meeting in 1990 at Jomtien (Thailand) as a global compromise to avail qualitative education to all children, adolescents and adult people. More than 150 governments made engagements in promoting the worldly right for education by provision of quality as well as removing cost. The statement had been repeated after 10 years in 2000 World Education Forum in Dakar (Senegal). He states the first goal which puts more emphasis on early childhood education, Goal One being expanding and improving early childhood well-being and schooling. This illustrates the international community mobilized forces to supply young children with early childhood education all over the world. Hujala (2017) opined that nursery school education can largely promote children's growth in all areas and produce positive effects on future learning. Accordingly, early childhood education is profitable to children's learning not only in nursery school but also in primary school and further studies. Moreover, UNICEF (2017) recommends education programmes at preschool in order to provide young children with the basic cognitive and language skills which will serve as foundation for future studies. This proves the great contribution of ECE in building children's learning foundation. They have to get some positive habits, the basis of critical thinking, problem solving, social inclusion, emotional stability, literacy and numeracy at nursery school.

Hujala (2017) opined that nursery school education can largely promote children's growth in all areas and produce positive effects on future learning. Accordingly, early childhood education is profitable to children's learning not only in nursery school but also in primary school and further studies. Moreover, UNICEF (2017) recommends education programmes at preschool in order to provide young children with the basic cognitive and language skills which will serve as foundation for future studies. This proves the great contribution of ECE in building children's learning foundation. They have to get some positive habits, the basis of critical thinking, problem solving, social inclusion, emotional stability, literacy and numeracy at nursery school. Despite the benefits of education to young child, the level at which they get right to environmental facilities is still very low in Africa and other developing countries. UNICEF (2017) reveals that around 6 in 10 children aged 3 and 4 in Latin America attend preschool education, and only one in four

children in Sub_ Saharan Africa. Accordingly, there is still a great need to put more efforts and mobilize more resources in early childhood education in African countries.

In East Africa, many children are deprived the chance of getting early childhood education; and parents advance the reason of lack of means and accommodation facilities. According to Brunette (2017) in the East African Region more children are enrolled in P1 rather than in early childhood education and this causes failure in performance which results in P1 high repetition rate. Brunette (2017) continues showing parents' responses about early childhood education in Uganda. There was observation that the total number of parents not giving children the chance to preschool education declared it was due to lack of money to pay- 93% in Kumi, the identified district as highly in risk, and 73% in Mbale, the low-risk district. In addition, some parents in Mbale they fail to educate those children due to lack of near their home place.

In Rwanda, many children start schooling at primary school level and they are not provided the chance to start earlier with early childhood education. MIGEPROF (2016, P. 7) declares, "Rwanda has around 5 million children of which approximately 15 % are potential beneficiaries of Early Childhood Development (ECD) services." Thus, there is a governing policy on preschool instructional guidelines, the curriculum has been developed and the parents are mobilized to provide children with that kind of education; but there are still a lot of gaps to fill so as to reach complete, quality, effective and efficient early childhood education.

1.1 Statement of the Problem

According to MINEDUC (2013), researches proved that learners with preschool care and learning services have more chance to attend formal school at a right age, stay in school for a sufficient period and get greater results from school assignments than learners deprived from preschool education. This shows that it is very important to provide young children with preschool education so as to sharpen their brain, develop their motor skills, enhance their emotional growth and stability and thus prepare them for primary school performance. However, MNEDUC (2011) said that a small number as less than 10% of children aged three to six years are the only beneficiaries of certain preschool trainings. Given that early childhood education is compulsory, but not yet attended by all children; considering that Rwandan citizens are not all ready to pay fees for their children' s nursery school education, the problem rises.

Programmes have been put in to provide infrastructure such as classrooms and equipment, instructional materials and qualified tutors are recruited for both primary and secondary schools. But some nursery school settings are still in old buildings which are not on standard; infrastructure, equipment, furniture and toys are not provided to all nursery schools, as it is the case for primary and secondary schools. Accordingly, children who do get free education from primary to secondary levels face challenges of inadequate preparedness to schooling. In Nyamasheke district, many pupils go to primary school without having attended ECE for the lack of means because ECE is paid and some parents cannot afford that cost. Moreover, available infrastructure is still very few as expected to accommodate nursery school setting; compared to the number of children at nursery school age in the community. Consequently, these children face challenges of

failure to adapt to primary school standards and requirements. Such problems are fear, lateness, and absenteeism. Finally, students may develop hostile feeling against schooling, fail in performance and even drop out of the school. Hence, the problem should be faced.

1.2 Research Objective

The study sought to explore the relationship between early childhood education and primary school learners' academic performance in Nyamasheke District, Rwanda.

2.0 LITERATURE REVIEW

2.1 Theoretical Literature

Early childhood education, also referred to as nursery school or preschool education is a programme of teaching/ learning predestined to train children aged three to six years of age; Schilling (2011). The concerned instructional form intends to enlighten learners' adequate skills that will form a base for primary school learning. Larimore (2016) defines nature- based preschool as the Early childhood programme for children from three to five years of age, with twenty- five to fifty per cent activities occurring outside the class every day, centering all topics at nature as a main theme to exploit both inside and outside classroom setting. Based on her definition, the nature is considered most valuable in the early childhood education curriculum. All themes are arranged and exploited around children's natural environment and thus their attention is excited and they can understand the surrounding world phenomena.

Schilling (2011) says, that Maria Montessori originated her first school in 1906. The given institution aimed at caring for children from the poorest place in the town of Rome whereby both the father and mother had to attend daily work for earning life and no one could take care of a child. Most children were enrolled at the age of three to six. Accordingly, in Montessori school, children are expected to observe environmental materials, learn through real life situation, manipulations, plays, songs and games. There are variations of activities so as to avoid tiredness and keep children's interest in school. Thus, young children's education requires attractive activities which will capture their attention. At the end, as they manipulate objects; engage in various plays, children will acquire some knowledge, skills, values and attitudes.

At nursery school, children's development is fostered in all areas. As says The LEGO Foundation (2018), early childhood education permits children to grow intellectually, socially, emotionally and physically. As far as the intellectual development is concerned, the preschool education prepares learners for primary acquisition as they are given a notion on basic numbers, calculations and notion on letters. Socially, the nursery school education provides children with basic guidance and orientation on acceptance of the social differences, tolerance of others and accommodating other persons' views as well as providing help and assistance to needy people. Emotionally, the children are trained for stability, thoughtful and positive decision making and choice of action. Physically, through balanced diet, sports and physical exercises, children are trained for growth, strengths and fitness.

2.2 Empirical Literature

In this segment of chapter, the researcher reviews related empirical studies on the preschool developed skills; primary school learners' academic performance and the relationship existing between the two variables. According to Oniwon (2015) the study has been conducted on quality of instruction in nursery schools of Ekiti- State in Nigeria; it has revealed findings as follows: 75% numeracy notional skills, 66% behavioural orientation, 4.2% new words and native language usage and 35% critical thinking and creativity. The researcher appreciates the learning activities. It has been found out that young learners enjoy learning through plays; but the attention is made on mother tongue and creative activities which have also been proved to be effective tools for nurturing these children. Oniwon (2015) continues, a study has been conducted on kindergarten achievements as a predictor to primary five mastery of English language skills. The assumption in interest was to test whether there might be any similarity in brightness in English language acquisition in the fifth form of primary school education as comparing children who got kindergarten preparedness and those who did not. These pupils were observed significantly different; primary school learners with kindergarten have highly performed greater than their peers without kindergarten. This proves the importance of early childhood education in preparing children for success in primary school.

Gomez (2016) says that the more any child gets complete and accurate education from young ages the more likely he/ she is to develop mentally, socially and emotionally than do their peers who did not have the benefits of a high quality ECE program, and that those outcomes contribute to their adaptability into the primary grades. This study illustrates the greater performance of primary school learners with nursery education, compared to their colleagues who join primary school without early childhood education. The research conducted by Mokrovan (2015) analyses social skills from grade 1-3 and finds out that children who experienced high quality ECE have high degree of social and academic achievements in grade one compared to children who did not have been provided with high quality ECE. Accordingly, children who have got the chance to attend ECE succeed to adapt to primary school environment and they do out perform their peers who did not get ECE or who get incomplete programme.

The early childhood education plays a significant role on primary school learners' performance. They move on saying that the children who missed the chance to attend ECE are mostly found running backwards to their peers who stand more knowledgeable, and this can result into unwanted but increasing gaps in academic skills. The preschool period is described as a sensitive moment during which students are more open to new environment and experiences. They advise the provision of ECE as a transition to primary school, and the children will get socially and academically prepared for primary school education. Ehrlich (2018), say that early childhood education can positively impact children's future learning. Thus, more efforts need to be put in preschool education which serves as corner stone for primary school learners' adaptation and performance.

3.0 RESEARCH METHODOLOGY

The correlative research design methodology was used. The population targeted was 318 people who were withdrawn from 74 schools with primary and early childhood education, as declared by the district education office (2019). Accordingly, the following sectors were selected as accessible population for provision of sample: Bushekeri, Bushenge, Karengera, Ruharambuga, and Shangi. The researcher thus randomly selected 177 participants to form the sample. Quantitative data from questionnaires were validated, edited, interpreted and processed using the computer statistical package for social sciences software (SPSS), version 21.

4.1 PRESENTATION OF FINDINGS

4.1.1 Early childhood education developed skills

Table 1 presents the teachers perception on ECE developed skills

Table 1: Teachers perception on ECE developed skills

Statements	SD		D		N		A		SA		Mean	Std
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Getting standard moral development by children in ECE	6	4.4	10	7.4	2	1.5	26	19.1	92	67.6	4.38	1.12
Socialization determines a child attended ECE	3	2.2	11	8.1	16	11.8	86	63.2	20	14.7	3.80	0.87
Children in ECE develop cooperation	4	2.9	10	7.4	9	6.6	57	41.9	56	41.2	4.11	1.02
Intellectual development to children in ECE	2	1.5	15	11	10	7.4	60	44.1	49	36.0	4.02	1.01
Emotional growth by children in ECE	7	5.1	11	8.1	10	7.4	54	39.7	54	39.7	4.01	1.13
ECE develops spirit of tolerance among children	7	5.1	12	8.8	15	11	58	42.6	44	32.4	3.88	1.12
To develop psychomotor skills by children in ECE	9	6.6	20	14.7	7	5.1	51	37.5	49	36.0	3.83	1.25

The results presented in Table 1 presents the perception of 136 teachers on ECE developed skills in Nyamasheke district in Rwanda. Accordingly, 86.7percent of teachers agreed on getting the standard of moral development skills by children in ECE with the mean of 4.38 and 1.12 of standard deviation while 77.9percent of teachers also agreed on the high level of socialization that determines a child attended ECE and perceived at the mean of 3.80 and the standard deviation of 0.87. Moreover, 83.1 percent of teachers indicated that children who attend ECE, develop cooperation skills and perceived at the mean of 4.11 and the standard deviation of 1.02. Similarly, 80.1 percent of teachers agreed that children promote their intellectual development in ECE were perceived at the mean of 4.02 and the standard deviation of 1.01 while 79.4percent of teachers agreed that children who participate in ECE, get emotional growth within their daily life and perceived at the mean of 4.01 and 1.13 of standard deviation. moreover, 75percent of teachers agreed that children in ECE, develop the spirit of tolerance among them with the mean

of 3.88 and the standard deviation of 1.12 while 73.5 percent of teachers agreed that children in ECE develop psychomotor skills effectively with the mean of 3.83 and 1.25 of the standard deviation.

The research conducted by UNICE, (2017) also confirms that the enrolment and providing children with preschool education promotes success intellectually, emotionally and socially. This links with our research findings on the first objective in that the early childhood education creates positive attitudes among learners and therein allows the expected growth and development.

In addition, forty-one primary school head teachers were interviewed. The findings from the interviews with them were categories in the theme related to the specific objective of the study: *“early childhood education developed skills in Nyamasheke district”*. Accordingly, the school head teachers responded that the early childhood developed skills are like moral development, socialization, cooperation and intellectual development and tolerance as well as emotional growth. They also added that children who attend pre-school are likely to develop such skills at a higher level.

4.1.2 Early childhood education teaching and learning setting

The researcher conducted the observation in order to get additional knowledge on the preschool development of abilities. It was noticed that the early childhood education enhances moral development, as well as socialization, cooperation and tolerance basing on the great contribution of corner plays, collective plays and games as well. Through the variety of plays, a child learns to be patient as the materials she/ he needs are being used by another one. This brings to the negotiation so that the material can be shared, and thus the spirit of tolerance is enhanced in that children learn the fact that what is important to me can also benefit my colleague. Accordingly, they learn to cooperate as they debate and all contribute to the fulfillment and success of their projects. Thus, this helps them accommodate other peoples' views as they socialize with them and learn to take favorable decisions to the siblings. According to The LEGO Foundation (2018), play is described as a natural tool which learners can use to build their resilience and copying skills as they understand their role in the facing challenges. Play also contribute for the children's triers of new social skills such as sharing toys and agreeing on how to work together with materials.

The observation also revealed nursery school children's emotional growth and stability. there was an observation that through the exploitation of nursery school themes, the child comes to understand that she/ he is responsible for some issues and she/ he is the one to decide and act positively. The LEGO Foundation (2018) says that symbolic play such as playing household activities or market place is especially beneficial in that children express their ideas, thoughts and feelings. Throughout the children learn how to control their emotions, interact with others, resolve conflicts and gain a sense of competence.

Finally, the observation has revealed that the early childhood education does a considerable work in the development of learners' intellectual as well as physical skills. To enhance the intellectual development, the children are exposed to basic calculation and a notion on numbers, addition, and subtraction as they manipulate toys. They are also given some vocabulary by reading and discussing on the small texts with key words. Moreover, children are brought to the understanding and interpretation of the surrounding environment. The physical development was typically found enhanced by some sports activities at the level of children. This is supported by Tadesse (2016) who finds that such activities like jumping, hands and arms movements, music, songs, obstacle games and balls help in enhancing motor skills.

4.1.3 Comparing the performance of primary school learners with and without preschool education

Forty-one primary school head teachers were interviewed. The findings from the interviews given to them included the theme related to the specific objective of the study “*comparing the academic performance of primary school learners with and without early childhood education*”. Exploring this theme, the school head teachers responded that learners’ academic performance of is indicated by class attendance, participation in learning activities and high academic performance as well as learners’ completion rate. However, such academic performance was different due to the fact that learners who attend early childhood education get earlier some basic skills that help them to adequately adapt to primary school while their colleagues without ECE face severe difficulties which hinder their acquisition. In accordance with our research findings, Jacinta (2015) argues that the early childhood education years are the most important for teaching a child how to love learning. It was found out that the success in preschool establishes a foundation for a child’s later academic and emotional development. This research proved that pre-primary school increases class participation, grade average, attitudes and values, skills development, socialization and self- control in primary school.

4.1.4 Relationship between ECE skills development and academic performance

The relationship between ECE developed skills and academic performance is illustrated in Table 2

Table 2: Relationship between ECE developed skills and academic performance

Correlations		ECE development skills	Academic performance
ECE skills	Pearson Correlation	1.000	.491**
	Sig. (2-tailed)		.000
	N	136	136
Academic performance	Pearson Correlation	.491**	1.000
	Sig. (2-tailed)	.000	
	N	136	136

Basing on the results presented in Table 2, there is a significant low degree of positive correlation between ECE development skills and academic performance where the P-value was 0.000 and the Karl Pearson coefficient of correlation (r) was + 0.491.

4.1.5. Relationship between ECE and learners’ academic performance.

The school head teachers were also questioned about the relationship between early childhood development skills and academic performance of learners in Nyamasheke district. The school head teachers perceived that early childhood education prepares learners to enroll in primary school with basic skills and knowledge that help them to get effective performance and become open minded in primary school. According to Gomez, (2016), the children’ s preschool education empowers them in terms of notional acquisition of numbers, letters, and simple

problems therein allowing them to compete with more complex operations of primary school. Thus, children who have got the prior skills from preschool are equipped with certain knowledge, skills values and attitudes which will help them to perform better in primary school as compared to the learners who enroll first in primary school without having attended early childhood education.

5.0 SUMMARY OF THE RESEARCH FINDINGS

The first specific objective was to describe the early childhood education development skills in Nyamasheke district. It was measured by seven indicators as following: moral development, socialization, cooperation, intellectual development, tolerance, emotional growth as well as physical fitness. The participant observation was conducted in the pre- primary classroom and it revealed the enhancement of these skills. For instance, through plays, games, classroom corner activities and outside activities children are familiarized with sharing, giving, requesting, asking pardon and exercising sports activities. In addition, their critical thinking, problem solving capacity, basic mathematics and language acquisition are flourished through manipulations and verbal activities both individual and in groups. Perception from teachers also indicated that an average of 79.4percent of teachers agreed on early childhood education development skills in Nyamasheke district.

The second specific research objective guided this study, was to compare the academic performance of primary school learners with and without early childhood education. The objective was measured by four indicators such class attendance, participation in learning activities and learners' grades as well as learners' completion rate. The perception from teachers indicated that class attendance to learners attended ECE, the mean was 4.27 while learners without attending ECE mean was 2.46. learners attended ECE the mean in participation of learning activities was 3.74 while without attending ECE the mean was 2.29. The level of completion rate to learners attended ECE the mean was 3.84 while learners without attending ECE the mean was 2.44. On the other hand, Learners' grades of learners attended ECE the mean was 4.03 and 2.68 those did not attend ECE. The third specific research objective of this study was to ascertain the relationship between early childhood education and primary learners' academic performance in Nyamasheke district. The perception from teachers indicated that there was a significant low degree of positive correlation between early childhood education and primary learners' academic performance in Nyamasheke district where Karl Pearson Coefficient of correlation (r) was + 0.491.

6.0 CONCLUSIONS

The research proved that early childhood education facilitated primary learners to be prepared for academic performance and improve their performance. In sum, research found out that early childhood education develops learners' skills in improving children's moral judgement, cooperation, collaboration and Socialization; improving spirit of fairness and tolerance; improving critical thinking and emotional growth; improving creativity, discovery, vocabulary, language and basic numeracy acquisition, as well as physical fitness development. Thereafter, these skills were proved to lead to the smooth transition from preschool to primary. It was proved that children who have done early childhood education are more likely to attend class regularly, participate more in learning activities, more likely to complete study cycle and score higher grade in primary school as compared to their peers who did not have access to ECE. Finally, there has been noticed the low positive relationship between early childhood education and primary learners' academic performance in Nyamasheke district of Rwanda.

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