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Effect of Early Childhood Education on Pupils' Readiness for Learning in Public Primary one School in Rwanda

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Abstract

The effective provision of early childhood education to children plays a significant role in readiness in primary school which also creates a high rate of adaptation. This paper therefore determined the effect of early childhood education on pupils' readiness in public primary schools (primary one) in Gasabo district in Rwanda. The target population was 270 respondents that provided the sample size of 162. The study used Yamane formula to get the sample size. Interview guide and questionnaire were used as data collection instruments. Correlation research design was employed and IBM/SPSS version 21 was used to analyze the data. The findings revealed that early childhood education influence pupils' readiness at 64.9 percent of R- square. It was noted that teaching and learning resources, teachers' qualification, numeracy development and language development can improve pupils' readiness for learning. It was also indicated that, every increase on teaching qualification and pupils' readiness for learning increases at 104.3 percent. The study recommended that the ministry of education ought to provide early childhood education facilities in all public primary schools in order to improve pupils' readiness for learning. Educational designers should make effective set up that should boost pupils' readiness for learning so as to make up effective implementation of early childhood education factors in public primary schools. The head teachers should supervise the implementation of early childhood education daily so that pupils' readiness for learning in primary one can be improved through developing test scores, attitudes towards learning and pupils' retention as well as reducing repetition rate.

Keywords: *Early Childhood Education, Early childhood Development, Primary education Pupil' readiness, Rwanda*

1.0 Introduction

Globally, the findings of a large body of research, attending a high-quality preschool setting before entering school can improve children's preparedness to begin school (Goldfeld et al., 2016). School readiness refers to a child's ability to learn easily and appropriately without experiencing emotional distress. Maxwell and Clifford (2015) revealed that School preparation includes children's participation in academic life, as well as their families and immediate environs, as well as communities in which children gain prior skills, information, and chances for adaptive adaptation. In recent years; preschool in Australia has restructured significantly where this process was taken as important recognition in early childhood education. In November 2016, Council of Australian Governments (COAG) approved an innovative National Partnership Treaty on Early Childhood Education. The Commonwealth, State and territory governments in this agreement were committed for insuring that all children would have access to early children education before accessing formal schooling delivered for 40 weeks per year; 15 hours per week by a degree qualified early childhood teachers (COAG, 2016).

Even though learning can occur at any age, it is critical to assist children at a young age in laying a firm foundation based on skills and knowledge, since this leads to future school achievement. Furthermore, as noted by the authors, a good foundation in the early years adds significantly to future learning because children gain prior information, including literacy and numeracy, at nursery schools at a young age (Davis & Gardener ;2015). Early childhood education provides a solid foundation that help kids in their enduring education that may lead to educational excellence as well as ultimate effectiveness in the open market. Mayfield *et al* (2016); revealed that a youngster missing a strong basis will be disadvantaged at beginning his or her educational career as the achievement gaps between in infantile schooling and basic education in addition to secondary education experienced when children enter kindergarten.

Early cognitive deficiencies of children advanced through school; most of children keep on learning with difficulties that may cause the gaps to extend further studies; leading a big number of pupils finally dropping out of school as it was revealed by (Thomas & Currie ;2014). In addition to this ; Maria Montessori supported that nursery education is the main component that contributes a lot in society as is education that children acquire at their early age (McKinney, 2013). When early childhood education is well-designed, it may lead to high quality plan which certify that children from poor families start primary education on time (Burger *et al.*; 2013). Kagan, Moore, and Bredekamp (2015); school readiness described as children' and schools' preparedness as well as family-environment in order to support children in their learning as it was confirmed in the National Education Panel of Washington. HFRP (2016); in the research conducted by Harvard Faculty of education reveals that children get successful life in their development from birth to adolescence since they are environmentally supported and sustained at their early age so that they can be ready for school.

Cunha *et al.* (2017) conducted study entitled effect of early children education on perceptive development where the researcher revealed that cognitive development as well as non-cognitive skills including motivation; self-discipline and socialization can be affected by early childhood education which implies that its effect is not limited to cognitive development. Some regions such as in Asia Pacific and sub-Saharan region; early learning and care services are provided basing on support and funding from agencies from abroad such as donors where most agencies provide significant advocacy role with government department. UN Educational, Scientific and Cultural

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Organization (UNESCO,2014) conducted a study and revealed that the international development goals on early childhood and care services achievement may lead to effective work of international donor agencies as focused on universal education and MDGs. Mialaret (1976) in the historical review of initial babyhood schooling, claiming was that early childhood care education was introduced and taken as the primary agent and cornerstone of socio-economic growth in several nations following WWII.

In Kenya, UWEZO (2013) performed study in grade one, finding that their performance is poor in many disciplines as evidenced by standardized test passing rate of 6%, 4%, and 7% for English, arithmetic, and Kiswahili, correspondingly. However; UWEZO (2013); did not show the factors that can influence grade one learners' academic performance. The Basic Education Act of 2013 (Cap 149 of the Kenyan laws) mandated that the Ministry of Education (Cabinet Secretary) implemented every child's entitlement to a free and obligatory basic education. The act stipulated the law that every child should attend early childhood education regardless to any circumstances; the public school which shows any form of denial of admission should be reported to the Country Education Board which may lead to review the decision (Murray & Harrison, 2014). In addition to this ; the readiness of the child to enter in primary education must be strong minded before starting. The admission criteria were highlighted in sub-country for children entering in primary schools in order to determine children' readiness for grade one. Even if Kenya investigated much in basic education; education profile evaluation report indicated that Kenya is still having considerable gaps in learning competencies in different levels of education (Keriga & Bujra ;2016). Finally; former Nyanza Province district of Kisumu and Kisii; grade one reading test scores were 38.4% and 40.2% in English and Kiswahili respectively as indicated by Early Grade Reading Baseline Assessment conducted in Kenya.

In Rwanda, like other sub-Saharan countries, children underlying the period from birth to six years need targeted and specific services as well as interventions for protecting children from different effects including poverty; diseases as well as abuse and HIV/AIDS. The best health services are required by children in the case of combating malnutrition and other debilitating conditions. Children between 3-6 years should be provided easy access to early childhood education in order to help them being ready for entering in primary school since are cognitively as well as emotionally prepared by both parents and caregivers through empowering them with knowledge and skills. In addition to this; meanwhile these circumstances are met; the government of Rwanda will be ready to encourage different peer groups of youngsters that can lead to Rwanda's development goals to be achieved. The approach of empowering holistic and integration that is aiming at developing young children was ensured and provided by the Early Childhood Development Policy and its Strategic Plan. The demonstration of international research has shown that there is high economic returns and positive effects on both health and education outcomes as well as national economic development on ECD investment. In addition to this; for achieving both goals and objectives of EDPRS and Vision 2020; ECD policy should be effectively implemented.

1.1 Problem Statement

Early Childhood Development (ECD) is described by way of holistic methodology to rules and programs for kids aged newborn to 8-years old, in which caregivers defend the person's welfare to reach his or her full cognitive, psychological, social, and physical potential (UNESCO;2015). Under this period; children start learning in nursery school where children's emotions; social; intellectual and physical development balanced. In addition to this; development of these different

domains leads to children's readiness for primary one as the determination of children's readiness to start primary education should be done before entry (Murray & Harrison, 2014). The Rwanda government has postulated Early Childhood Development policy which emphases from before conception up to six years after birth as first years of child's life are taken as foundation of life where children's psychological; mental and social as well as physiological development should be balanced. Setting the foundation which is strong in early years facilitates easy learning in children's further studies where it provides good foundation for children's lifelong learning and educational excellence as well as ultimate competitiveness in the marketplace (Davis & Gardener ;2015). This policy is aiming at filling the major gaps basing on present facilities in order to fulfil the needs through extending and refining early childhood education services for preparing children entering in primary schools with prior knowledge so that Rwandan children will achieve their full potential. Even though Rwanda government has put more effort in empowering nursery schools; there is still a gap as repetition rate is 24.5% in primary one which is caused by the problem of pupils 'readiness for primary one (MINEDUC,2017). This may be caused by unqualified teachers; uneducated parents; poor teaching and learning resources as well low salary of public nursery schoolteachers which leads to lack of pupils' readiness in primary one. This paper therefore, sought to determine the early childhood education on pupils' preparedness primary school education in Gasabo district in Rwanda.

1.2 Objective of the paper

The objective of the paper was to determine the effect of the early children education on pupil's readiness for learning in public school (primary one) in Gasabo district in Rwanda.

2.0 Literature Review

2.1 Concept of pupils' readiness

Duncan et al (2017); defined pupils' readiness as the concept which has a big number of distinctive compassions and interpretations in the context of early childhood implementation where pupils get the suitable skills and competences in early age that may help children adjusting to school environment so that to meet the new demands. Furthermore, the prevalent nationalist perspective of readiness holds that kids are ready to begin school once they have reached a level of longer maturities that allows them to stay quiet, stay busy, communicate with peers in socially appropriate ways, and accept instructions and guidelines from educators and other analysis of large amounts (Maxwell & Clifford, 2015). The empiricists have conception on readiness where they see readiness in terms of the applied features of the youth's behaviors and emphases on the physical evidence of learning. Christoffersen(2015);defined a kid's school readiness as a stage of development at which a kind appears to be prepared for formal schooling. A new approach derives from a viewpoint that recognizes the fundamental relativism that characterizes young children's preparedness and considers preparedness in sociocultural dimensions (Goldfeld, O'Connor, Quach, Tarasuik, & Kvalsvig, 2015).

The idea that preschool preparedness is a collection of concepts or interpretations formed by community members; households and institutions as they are engaged in the preschool program was validated by a researcher. These concepts are based on community beliefs and assumptions, and they are tied to individual pupils based on factors such as age, gender, and school experiences. This viewpoint turns the assessment's focus away from the kid and onto the community in which the child resides; teachers', parents', and others' assessments of a child's readiness become the focal

point of this conversation. Furthermore, school readiness ensures not just children's engagement in school career, but also their engagement in families, local settings, and communities where children require prior knowledge, skills, and chances for an effective adaption process (Maxwell & Clifford, 2015). As a result, children's school preparedness can improve their academic performance and growth. One's preparedness differs depending on their current preschool perception, preschool locations, academic background, and parental financial standing, and this variability has an effect on human economic growth because educational attainment and potential career success can be most forward on one's student achievement. School readiness, relates to a child's ability to learn easily and sufficiently without psychological complication, (Thomas ;2014).

2.2 Early childhood education

Early Childhood Education is crucial for the development of concepts, abilities, and attitudes that will serve as the basis for continuous learning (Cunha et al., 2017; Carneiro & Heckman, 2019). Early Childhood is, after all, a delicate era characterised by fast changes in physiological, intellectual, linguistic, interpersonal, and psychological growth. It is a moment of time for a person's life growth (UNESCO, 2010). A solid justification for childhood education is that it helps to satisfy the different requirements of young kids during their vital early life, improve their preparation for education and consume a favourable and long-lasting effect on advanced education accomplishments (Carneiro, et al. 2016). As a result, according to Woodhead (2019), early education is perhaps the most effective strategy for assisting disadvantaged children, families, communities, and nations in breaking the vicious transmission of poverty. Early Childhood Development (ECD) is described as a holistic approach to programs and policies for children aged newborn to eight years old, aiming at ensuring the rights of the child to reach his or her full cognitive, psychological, interpersonal, and physiological potential (UNESCO; 2014).

It is critical to address a child's basic requirements for contact, stimulation, affection, security, and learning through discovery and exploration in order for him or her to learn and develop in a natural and healthy manner (Consultative Group for ECCD: 2016). Preschool years3_6 years: Numerous studies have found that at 80% minimum of mind growth occurs earlier the stage of three, indicating that the opening three years of life are a period of tremendous development in all areas of a baby's growth. During this time, pupils thrive from perceptions and initiatives that boost opportunities to learn through group research and exploration, as well as more chance to participate with others and a variety of adults, in terms of food and wellbeing aid and sustained cognitive health. Proper and secure service can be given at home, in the community, and in the preschool setting. Parents and primary caregivers must be actively involved in programs, whether they are held at home or at early childhood centres, hospitals, or other locations; after that, it's primary school.

Various aspects of growth, and also academic preparedness, are encouraged at this time. Enhancing a child's readiness for school as well as ensuring that organizations are ready for children are both part of the school readiness. Support for a gradual outcome to formal schooling, life skills education, school sanitation and wellbeing, but also care and security, should all be included in programming at this age (Bidwell, 2013; Colorado Department of Education, 2011). According to brain research, children's' brain development from birth to age five is critical because it is during this time that they have the best chance for comprehending their enormous communal, intellectual and educational prospective (Stone & Lindsey, 2015). Early sensory input, spoken

language exchanges, and repetition are consequently critical in a baby's brain development and preparation for subsequent school success (Frey & Fisher, 2016).

2.3 Early Childhood Education and pupils' readiness

Early Childhood Education has an effect not only on young child development, but also on a variety of noncognitive qualities such as motivation, self-discipline, and socializing (Heckman, 2015; Cunha et al., 2016). Self and cross productivity are traits that describe how well these cognitive and noncognitive capabilities connect and reinforce each other (Carneiro, et al., 2016; Helmers & Patnam, 2019). children's preparedness for school is a developmental stage in which the child appears to be ready for formal schooling (Christofferson, 2015). Furthermore, learners' readiness for school is a result of their directly or indirectly links with the ecosystem, and children develop the academic, language, and cultural skills required for school entry through social relationships between pupils' families and teachers (Thomas, 2014). School readiness relates to a child 's cognitive development easily and effectively without experiencing emotional distress. Furthermore, school readiness ensures not just children's engagement in academic life, but also their engagement in families, local settings, and communities where children require prior knowledge, skills, and chances for an effective adaption process (Maxwell & Clifford, 2015). Transitioning from preschool to Year One in Malaysia is a difficult phase for them. These pupils must adjust to their new school setting.

The transformation to school, is a period during which kids alter their role as a kid in the school community, which includes changing roles, identifications, and perceptions of children, as well as a shift in the sequence of relationships and interactions between children as well as the people around them, such as peers and teachers ;(Dockett & Perry 2017). In addition to this, by the end of Year One, children should be ready to engage actively in studying and performing. Children typically show varying levels of preparation, particularly in terms of intellectual and socio emotional abilities (Smart et al. 2018). Kids that are not well prepared for education are more likely to be teen parents, involvement in illegal activities, and lose their jobs (Schweinhart;2013). As a result, improving children's school preparation can help them achieve academic success and flourish socially (Pianta & Kraft-Sayre 2014). Academic achievement and future job performance can be anticipated based on their preparation to school, so such variation has an effect on human capital development (Boethel 2015; Dockett & Perry 2017; Lee et al. 2016). Their readiness differs depending on their current kindergarten experience, school locations, academic level, and financial situation of their parents (Rohaty; 2019). Pupils with better degrees of preparedness will achieve upwards of children with low levels of readiness. Early learning skills lay a firm basis for future success (Cunha et al.,2016).

2.4 Effect of Early Childhood Education on pupils' readiness

While the Great World Depression and WW II brought considerable variations to early childhood schooling; noted that nursery education system should emphasize on child's welfare, motor abilities and cultivating creativity via outdoor labor and play (Schweinhart & Weikart ;1998). According to Lannak (1995), the war migrant families owing to the need to move to find work, and the infant school's dwindling role became clear. The Works Progress Administration, established by President Franklin D. Roosevelt in 1935, was a labour program that provided funds for the establishment of nursery schools (Public Broadcast System, 2019). That initiative completed eight years later, and the national govt began allocating cash for full scale operations a few year after. Congress established the Economic Development Act in 1964, which included a

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Provision for Leg Up, the country's first federally sponsored early education on program. The approval of Head Start would help millions of youngsters who are living in poverty.

School readiness, is defined by three intertwined characteristics: prepared children, prepared schools, and prepared families(UNESCO ;2012).The ready children component looks at a child's learning and development, focusing on how a kid could perhaps recognize and also be aware for entering in primary school when prepared as well as eager for learning (Kukla, 2013).Even though willingness standards cover all aspects such as physiological, intellectual, social, and psychological capabilities as well as a good outlook toward studying that a student should develop from childhood education, understanding of language and math is not enough to be ready (Ernest, 2014; Zaft et al., 2015).The qualities and abilities that children should have in order to learn effectively in school have been used to determine their school readiness (Love et al.,2016).

Early childhood education has a significant effect on a variety of behaviours and abilities, including reading, numeracy, capacity to follow instructions; interacting well with the other children, and participating in learning activities (Lara Cinisomo, 2014, Rouse, BrooksGunn, & McLanahan, 2015). When pupils begin school, they are assessed on their cognition and general knowledge, which includes logical mathematics knowledge and comprehension, the physical and social environment, and aspects of language, which are split into verbal communication, pre-reading, and writing skills (Scott-Little et., al;2016). Teachers can use these aspects of development to determine which pupils are ready to enter elementary education. The prepared school component emphasize on the learning setting, including steps to encourage and enhance a smooth transition for kids from elementary to secondary school and beyond, as well as motivating all children to learn (Kelly, 2010)

2.5 Government policy

The Early Childhood Education Development Policy and its Strategic Plan aim to create a framework for ensuring that young children's development is comprehensive and integrated in order to prepare them for primary school. International research has shown that investing in Early Childhood School (ECE) yields significant economic returns and has a big effect on health and education results, as well as a country's economic growth. The Early Childhood Education Policy will thus provide Rwanda with a solid foundation for accomplishing the EDPRS's and Vision 2020's objectives and aims. The Rwandan Government's Early Childhood Education Development Policy aims to guarantee that all Rwandan children reach their full potential, with parents serving as caring caretakers for the future generation. This will be accomplished by establishing community led, comprehensive Early Childhood Development programs, as well as enhancing and integrating critical inter-sectoral and sectoral services for parents and children. The Early Childhood Education Development Policy is a road map to assist all stakeholders in meeting the growing need for elevated services for children, parents, and carers. This policy aims to close major gaps in current programs and satisfy the demand for extending and upgrading early education programs in order to better prepare children for primary school.

Parents as caregivers, the state, municipalities and democratic institutions, as well as the commercial sector, all benefit from the execution of this policy since it allows them to assign critical tasks and responsibilities that significantly contribute to kids' preparation. The strategy on child development covers the preconception phase, pregnancy, and the first 6 years of a kid's development. The early years are critical for a child's emotional, interpersonal, cognitive, and physiological development to be balanced. According to Davis and Gardener (2015), creating a

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firm foundation in the early years allows for future learning. They lay a solid basis for children's lifelong learning, academic success, and future market competitiveness. A child who does not have a strong foundation will be at a disadvantage in school. Studies reveal that inequities emerge between the poor and best percentiles by the time children attend preschool (Mayfield, Miller, & Pennucci, 2014; U.S. Department of Education, 2014).

3.0 Research Methodology

The paper employed correlation research design in order to determine the effect of early childhood education on pupil's readiness in primary school one in Gasabo district in Rwanda. The target population was 270 respondents and Yamane formula was used to get sample size of 18 school head teachers and 144 teachers. Questionnaire and guided interview were used as data collection instruments. Stratified sampling was used as sampling technique. The simple random sampling technique was used to the respondents of each stratum. The validity of the research instrument was maintained by distributing the research instruments to the expert respondents in the area of the study. The IBM SPSS software version 21 was used in data management. The analysis of the data was done using the descriptive and inferential statistics.

4.0 Research Findings

The finding of this paper was presented based on the objective of the study which was to determine the effect of early childhood education on pupil's readiness in primary school one in Gasabo district in Rwanda.

4.1 Early Childhood Education

The implementation of early childhood education was investigated from teachers in primary schools of Gasabo district and the study results are summarized in Table 1

Table 1: Early childhood education implementation (public nursery schools)

Statements	SD		D		N		A		SA		Mean	Std
	FR EQ	%	FRE Q	%	FRE Q	%	FRE Q	%	FR EQ	%		
Our pupils' parents have gone to School	22	15.3	15	10.4	3	2.1	61	42.4	43	29.9	3.59	1.42
Parents 'education contributes to ECE	3	2.1	5	3.5	5	3.5	44	30.6	87	60.4	4.43	0.88
Teachers in nursery schools are satisfied	55	32.2	42	29.2	13	9	25	17.4	9	6.3	2.45	1.29
pupils learn through singing and dancing	7	4.9	13	9	9	6.3	37	40.3	78	43.1	4.15	1.17
This school has teaching and learning resources	18	12.5	11	7.4	15	10.4	80	55.6	20	13.9	3.50	1.20
Every teacher is qualified in this school	42	29.2	40	27.8	29	20.1	20	13.9	13	9	2.24	1.28
pupils start nursery school at the right age	23	16	25	17.4	4	2.8	60	41.7	32	22.2	3.36	1.41
pupils can repeat	2	1.4	21	14.6	1	0.7	58	25.7	62	54.2	4.09	1.07

SD: Strongly disagree, D: disagree, N: Neutral, A: Agree and SA: Strongly agree

The Table1 indicates the perception provided by teachers teaching in nursery school related to the extent to which early childhood education implemented in schools, where 91 percent of teachers agreed that parents' education contributes to early childhood education at 4.43 of mean ,83.4 percent of teachers agreed that pupils learn through singing and dancing at 4.15 of mean ,79.9 percent of teachers agreed that pupils can repeat in the same class at 4.09 of mean,72.3 % of teachers decided that pupils' parents used to visit their children at school at 3.59 of mean ,69.5 percent of teachers agreed that their school have teaching and learning resources at 3.50 of mean while 63.9 percent of teachers agreed that pupils start nursery school at the right age at 3.36 of mean and 23.7 percent of teachers agreed that teachers in nursery school are satisfied at 2.45 of mean as well as 22.9 percent of teachers agreed that every teacher is qualified in their schools at 2.24 of mean.

Moreover, the head teachers with nursery classes located in Gasabo district were interviewed about the degree to which the Early Childhood Education implemented in schools and showed that Early Childhood Education is implemented in their schools at modulate extent.

Basing on the perception of varying interviewees related to degree to which Early Childhood Education implemented in schools, the interviewer made a comparative interpretation where it was revealed that interviewees have the same insight on the extent to which early childhood education

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implemented in schools, but diverse magnitude as presented in table 4.10 as well as dialog given to head teachers. In (2016), the United States Census Bureau released a description after conducting research about education of young children which shows that 57 % of children ranging between 3- and 7-years old attend nursery schools and those children participate in different activities where most children who attend nursery schools are those from educated parents.

4.2 The level of pupils' readiness for learning in public primary school education

The level of pupils' readiness in primary school one for their learning aspect was investigated in this paper. This was for the purpose of indicated the extent though which pupils are ready to learn effective in primary one. The study results presented in Table 2 demonstrates the level of pupils' readiness for learning in primary school.

Table 2: Level of pupils' readiness for learning in primary school

Statements	SD		D		N		A		SA		Mean	Std
	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FRE	%		
Pupils have high level of retention	24	16.6	12	8.5	7	4.9	42	29	59	41	3.59	1.59
Pupils increase their scores	25	17.4	10	6.9	8	5.6	40	27.8	61	42.4	3.70	1.50
Pupils show positive attitudes towards learning	7	4.9	13	9	20	13.9	59	41	45	31.3	4.18	0.70
Rate of pupils' repetition reduced	29	20.1	5	3.5	8	5.6	46	31.9	56	38.9	3.65	1.51
Rate of pupils' thinking is at high level	7	4.9	13	9	20	14.9	59	41	45	30.3	3.84	1.11

SD: Strongly disagree, D: disagree, N: Neutral, A: Agree and SA: Strongly agree

Study results summarized in Table 2 indicates that 72.3 percent of teachers agreed that pupils' show positive attitudes towards learning at 4.18 of mean, 71.3 percent of teachers agreed that the rate of pupils' thinking is at high level at 3.84 of mean, 70.8 percent of teachers agreed that the rate of pupils' repetition reduced at 3.65 of mean while 70.2 percent of teachers agreed that pupils increase their scores at 3.70 of mean as well as 70 percent of teachers agreed that pupils have high level

of retention at 3.59 of mean. Building on the findings shown in table 4.11, it is vivacious that pupils show positive attitudes towards learning due to the mean of 4.18. However, the outcomes of table 4.11 indicates that pupils who do not attend early childhood education show low respect to teachers as reinforced by the mean of 3.17. Head teachers were also interviewed on the level of pupils' readiness for learning in primary school and emphasized that there is high pupils' readiness in schools where early childhood education is found when compared to those schools without nursery education. Childhood education implemented effectively pupils' readiness can be improved significantly. Despite, Ogutu (2015), also supplemented that caring nursery school learners should take into account community teamwork and reducing financial constraints for the purpose of attracting parents to send children to school at early age as it was shown that learners who attend nursery education show positive attitudes towards teachers and elders as well.

4.3 Correlation between early childhood education and pupils' readiness for learning

The relationship between early childhood education and pupils' readiness for learning especially in primary school one was established. It was for the purpose of indicating on how early childhood education is correlated to pupils' readiness for learning in primary one specifically in Gasabo district. Table 3 summarizes the correlation between early childhood education and pupils' readiness for learning

Table 3: Correlation between early childhood education and pupils' readiness for learning

		Pupils' readiness	Early childhood education
Pupils' readiness	Pearson Correlation	1.000	.780**
	Sig. (2-tailed)		.000
	N	144	144
Early childhood education	Pearson Correlation	.780**	1.000
	Sig. (2-tailed)	.000	
	N	144	144

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

The outcomes in Table 3, divulge that there is significance high grade of positive relationship between early childhood education and pupils' readiness for learning in primary one where Pearson coefficient of correlation states the correlation (r) of 0.780 where the p-value =0.00< 0.01. it means that early childhood education provides enough evidence that promotes pupils' readiness for learning in primary one. As stated in interview, it was shown that attending early childhood education help learners to be read to study primary one as children acquire basic skills from nursery. These findings are in line with the study Blackman (2019), which displays that pupils' involvement in early childhood education, generally is associated with an upgraded both discipline of pupils and their readiness which causes higher education ambition augmented test scores and

decreased repetition rate. Adeyemo (2015) recognized that early childhood education has confirmed to be advantageous in constructing and strengthening pupils' readiness.

4.4 The influence of Early Childhood Education on pupils' readiness for learning

This paper assessed the influence early childhood education on pupils' readiness for learning in primary school one. Therefore, the study performed linear regression analysis to indicate the extent to which the independent variables (every teacher is qualified in this school, Availability of teaching and learning resources, parents' education contributes to ECE, all teachers have teaching qualification) can influence the pupils' readiness for learning. Table 4 depicts the R square of early childhood education and pupils' readiness for learning

Table 4: The R square of early childhood education and pupils' readiness for learning

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.805 ^a	.649	.639	.97173	.649	64.355	4	139	.000

a. Predictors: (Constant), every teacher is qualified in this school, Availability of teaching and learning resources, parents' education contributes to ECE, all teachers have teaching qualification. The findings presented in Table 4 indicates there is a high grade of correlation (r) of 0.805 and R square of 0.649. This means that early childhood education affects pupils' readiness for learning at 64.9 percent and the remaining 35.1percent can be affected by other variables.

Table 5: ANOVA of early childhood and pupils' readiness for learning

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	243.073	4	60.768	64.355	.000 ^b
1	Residual	131.253	139	.944		
	Total	374.326	143			

a. Dependent Variable: pupils get better scores

b. Predictors: (Constant), Every teacher is qualified in this school, Availability of teaching and learning resources, Parents education contribute to ECE, all teachers have teaching qualification

The results in the Table 5 show the P value of $000 < .05$ which is less than 0.05. It means that the effect of early childhood education on pupils' readiness is substantial. Consequently, early childhood education influence significantly pupils' readiness for learning in primary school. This was imposed by head teachers in interview where they designated that there is a high variation of pupils' scores due to attending early childhood education and added that the more pupils attend nursery schools the more improve their readiness for learning in primary. According to Brown

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(2016), pupils actively participating in early childhood education advance their language, roles of leadership and encourage their relationship amongst themselves and with adult people. This indicates that pupils attending early childhood education influence their readiness for learning in primary school as they develop their interaction and language barrier as well.

Table 6: Coefficients of early childhood education on pupils' readiness

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	T	Sig.	Lower Bound	Upper Bound
1 (Constant)	-.702	.442		-1.587	.115	-1.576	.172
All teachers have teaching qualification	1.043	.087	.739	12.040	.000	.872	1.214
Availability of teaching and learning resources	.019	.076	.014	.251	.008	.074	.495
Parents' education contributes to ECE	.284	.106	.155	2.674	.802	-.131	.169
Every teacher is qualified in this school	-.192	.065	-.153	-2.949	.004	-.321	-.063

a. Dependent Variable: Pupils get better scores

Table 6, shows the contribution of each indicator of the influence of Early Childhood Education on pupils' readiness. It was found that teaching qualification of teachers contributes much in the influence of pupils' readiness while Parents' education contributes to ECE contributes less. This demonstrates that parents misunderstand on the role of early childhood education to their children' readiness for learning in primary regardless to their education. The findings from the respondents indicated that the regression equation was indicated due to the fact that there was a significant influence of teachers' qualification on pupils 'readiness for learning which was $p=0.000 < 0.05$. Conclusion was drawn that there is greater influence of early childhood education on pupils' readiness. Thus, we are 95% percent confident that the slope of the actual regression line is somewhere between 87.2 percent and 121.4 percent. This is followed by the influence of the qualification of every teacher in the school with significance level of $p=0.004 < 0.05$ and the regression line is somewhere between -32.1 percent and 6.3 percent as shown in the table6. Table6 also revealed that the influence of the availability of teaching and learning resources is also significant as p value is equal to $0.008 < 0.05$ and the regression line is somewhere between 7.4 percent and 49.5 percent while contribution of parents' education on pupils' readiness is not

significant as p value is equal to $0.802 > 0.05$ and the regression line is somewhere between -13.1 percent and 16.9 percent as revealed in table 6.

Head teachers of public schools with nursery classes located in Gasabo district indicated their perceptions related to the effect of Early Childhood Education on pupils' readiness where they presented that early childhood education can affect pupils' readiness; in case pupils perform better in nursery classes; their good performance like getting better scores can continue even for their further studies. They also added that, pupils who attended early childhood education show better performance in primary compared to those who did not attend Early Childhood Education.

According to Massoni (2018), early childhood education influences pupils' readiness such as pupils' high retention, low repetition rate as well as positive attitudes towards learning and positive aspects to become successful adults and social aspect.

5.0 Summary of findings and Conclusion

The objective of this paper was to determine the effect of early childhood education on pupil's readiness in primary school one in Gasabo district in Rwanda. The study revealed there is a high positive relationship between early childhood education and pupils' readiness for learning in primary one. The Pearson coefficient of correlation shows the correlation (r) of 0.780 where the P-value $= 0.000 < 0.01$. This means that early childhood education provides enough evidence that promotes pupils' readiness for learning in primary one. On the other hand, each increase on influence of teachers' qualification on pupils' readiness for learning increases somewhere between 87.2 percent and 121.4 percent. This was shown that it is more significant when compared to other early childhood education factors as its p-value $= 0.000 < 0.05$ while the increase of the availability of teaching and learning materials on pupil's readiness is between 7.4 percent and 49.5 percent. Finally, the findings showed the contribution of parents' education on pupils' readiness is between -13.1 percent and 16.9 percent. The study concluded that the high standard in implementation of early childhood education can proportionally increase the level of pupils' readiness in primary school one in their learning. Despite, the poor implementation of early childhood education in Gasabo district can reduce the level of level of pupils' readiness in their learning in primary school one.

6.0 Recommendations

The study recommended that the ministry of education ought to provide early childhood education facilities in all public primary schools in order to improve pupils' readiness for learning. Educational designers should make effective set up that should boost pupils' readiness for learning so as to make up effective implementation of early childhood education factors in public primary schools. The head teachers should supervise the implementation of early childhood education daily so that pupils' readiness for learning in primary one can be improved through developing test scores, attitudes towards learning and pupils' retention as well as reducing repetition rate. The researcher suggests that the further study can be conducted to establish the influence of Early Childhood Education on pupils' academic performance in public primary schools in Rwanda.

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