

Influence of Teacher Professional Qualifications on Acquisition of Learner Competencies in Early Childhood Development and Education in Public Primary Schools in Embu County, Kenya

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Abstract: *Early Childhood Development and Education (ECDE) refer to an educational programme and strategies which are geared towards children from birth to eight years of age. ECDE advancement is aligned to the global consensus which helps in development of children's emotional, intellectual, social and physical well-being. The purpose of this study was to establish the influence of ECDE teacher professional qualifications on learning in early childhood development and education in public primary schools in Embu County, Kenya. ECDE teachers in 381 public primary schools in Embu County were targeted. Stratified random sampling was used to select the schools for the study from the five sub-Counties. The main tools for data collection were questionnaires, document analysis and observation schedule. Both qualitative and quantitative methods collected and analyzed data using SPSS programme. The study found that ECDE teacher professional qualifications had an effect on early childhood development and education learning. Based on results, the study recommends that ECDE teachers handling ECDE classes should be equipped with competency skills for handling learners transiting from ECDE classes that encourage growth of the child holistically. The relevant departments within the Ministry of Education should also monitor ECDE centers and training colleges and especially to see to it that teachers are equipped with the knowledge on monitoring and encouraging growth of children and especially in competencies required in the society they live in. This would ensure smooth transition of pupils from ECDE classes to other grades and complete the purpose of mainstreaming of ECDE learning in primary schools.*

Keywords: ECDE learning competencies, ECDE teacher qualifications, ECDE in Embu

1. Introduction

According to the World Bank (2010), Early Childhood Development (ECD) refers to the physical, cognitive, linguistic, and socio-emotional development of a child from the prenatal stage up to age eight. Part of the setting in which this development occurs is the school where children are taught necessary competencies which empower them with life skills. Therefore activities ranging from childcare to education must be handled well. The education sector in Kenya has mainstreamed Early Childhood Development and Education (ECDE) as part of the basic education so as to promote a healthy mind and body of the targeted child. Early childhood Development and Education is therefore a programmatic service that broadly combines education and care in one seamless experience for ECDE learning (Republic of Kenya, 2015).

ECDE teacher professional qualifications certify and offer information on the type of knowledge and skills that graduate ECDE teachers have acquired in formal schooling. They also indicate how much specialized and practical training is included in initial staff education. At the same time, they further show what type of professional development and education is available to be taken up by the staff, and how many years of experience staff have accumulated. Thus, better quality teachers facilitate better learning outcomes (OECD, 2015).

Interestingly, Mbugua, 2012 study on the early childhood care and education in Kenya, found that there were no properly organized training programmes for untrained

teachers. Learning could not therefore take place effectively with inadequate trained teachers in ECD centers. Also, Gatumu and Kathuri (2017) found that teachers had not been fully trained on competency programmes. Thus, only a teacher with competency skills and strategies on effective teaching with exposure to continuous professional development through in-service training can add value to the process of learning (Fives, 2003).

Predominantly, various challenges face the efforts made to include ECDE in primary education. They include inadequate trained teachers on competency skills, inadequate instructional materials and high teacher-pupil ratio among others. These challenges cause internal inefficiency that negatively impacts on access, equity and quality of education (Republic of Kenya, 2005).

According to the Annual Report of the Ministry of Education, Science, Technology and ICT (2013), majority of schools in Embu County were not conducive for learning. Part of the reason was that a number of ECD teachers of group (2012) in Embu were employed using result slips. Some others had District Education Centre for Early Childhood Education (DICECE) certificates that did not have an official ministry of education seal and two teachers had referrals from Kenya National Examination Centre for Early Childhood Development Education (KNECECDE) examinations. This was an indication of inadequacy of trained teachers in the County. Gatumu and Kathuri (2017) observed that despite the fact that teachers had professional training, there was no evidence of training in the Life Skills Programme.

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In the wake of the findings of the baseline survey report of year 2013 by MOEST and ICT in Embu County which found that there were inadequate trained teachers, it recommended more teachers to be trained and be deployed to ECD classes. Therefore, the county initiated immediate campaigns to recruit qualified teachers who were already trained (Embu County MOEST and ICT, 2013). After a successful launch and recruitment, 483 teachers started teaching towards the end of 2013 (Reject Online, 2016). Additionally, the county government signed a three year package with the teachers. Recruitment of trained teachers had a positive impact since ECDE enrolment rose by 15 percent from 14,391 to 16,621 towards the end of 2015 (Reject Online, 2016). According to the Governor, a strict system of monitoring the performance of the teachers had been formulated as means to ensuring strict adherence at all times to the guidelines in the provision of quality education to young children. It was further noted that at least 50 teachers were still needed to lower the teacher pupil ratio in Embu County since the teacher pupil ratio was 1:32 which was quite high for ECDE learning (County Government of Embu Report, 2013).

Although learning has improved in most cases where qualified ECDE teachers interact with learners, it appears that there are no adequate studies that have been carried out to examine teacher professional qualifications against learning across ECDE centers in Kenya and especially on competency programmes. Therefore, this study intended to examine the influence of teacher professional qualifications on acquisition of learner competencies in early childhood development and education in public primary schools in Embu County, Kenya

2. Literature Survey

Education Production Function Theory

The study is based on the Education Production Function Theory which was advanced by Mace (1979). In this production function theory; education process is looked at as where inputs are converted to outputs. Education is a kind of industry where people enter as raw materials and come out as finished products. The function shows relationship between two or more variables. These variables can be physical infrastructure, level of teacher professional qualification, level of pupil/teacher ratio and provision of instructional materials which are some of the factors contributing to low levels of achievement hence low internal efficiency in ECD and in primary schools. In equation form production function can be represented by: -

$A=f(C, D, E, T \text{ and many others})$, where

A= Achievement due to some measures taken in school such as mainstreaming.

C= Physical infrastructure

D= Teacher professional qualification

E = Instructional materials

T= Pupil/Teacher Ratio

The theory therefore is related to those aspects of education production activity that can be measured for example retention or repetition, participation, achievement and completion rates. The input will be determined in form of physical infrastructure, teacher professional qualification,

pupil/teacher ratio and instructional materials. The output will be determined in form of pupils' participation and retention rates which translate to wastage, promotion to the next grade, graduation, retention in the same grade and average years of schooling.

The aim is to establish if the existing inputs will be used to produce maximum output. In this study, the concentration will be on physical infrastructure, teacher professional qualification, instructional materials and pupil/teacher ratio and how they are affected by mainstreaming of ECDE in public primary schools in Embu County, Kenya.

Influence of Teacher Professional Qualification Level on Acquisition of learner Competencies in Early Childhood Development and Education

Teachers as one of the inputs into the educational process constitute an important feature in pupils' learning. Teacher competence in teaching depends principally on teacher's qualification level. Adeyemi and Adu (2012) confirm the argument that the level of a teacher's subject matter competence is a prime predictor of pupils' learning competencies. He further argued that it is not only the qualifications obtained by a teacher that could contribute to a teacher's quality but actual achievement in terms of subject matter competencies. Teachers' professional qualification has been linked to overall classroom quality through acquisition of learner competencies.

Primary school teachers with early childhood training are more effective in early grades since they are more equipped with information on how young children learn and develop. This helps them ease transition of children and families to schools much more than teachers who lack this background. Teachers with early childhood training are more likely to use developmentally appropriate practices in the classroom hence investment in primary teacher education with an emphasis on early childhood pays great dividends for educational efficiency and student learning (Britto, 2012). This was found relevant by UNICEF (2016) report which affirmed that teachers with early childhood training are more likely to use developmentally appropriate practices in the classroom. It concluded by stating that "The primary teacher's education with an emphasis on early childhood pays great dividends for educational efficiency and student learning."

Forum for Women Educators (FAWE) (2002), noted that, Quality of teachers was a contributing factor in the African region to low or high internal efficiency in primary schools. In most of the sub-Saharan African countries, situations exist where teachers are not adequately trained. Retraining programs are not well established and teachers are not adequately motivated. As a result; they underperform, lack innovation and creativity, are not learner friendly, hardly give remedial lessons, do not use gender-responsive approaches in teaching, have no interest, do not motivate learners, are harsh, dictatorial and self-centered. Learners, therefore, run away from schools or just decide to lie low. This was found relevant by Jacques et al (2013) who noted that in order to make instructional time more effective, teacher training is necessary. They recommended support and training for teachers since teacher quality is a predictor

of student achievement cross-nationally. They further observed that teachers in Benin, Honduras, Liberia, Mali, Ethiopia, and Sierra Leone were trained according to the national standards so as to improve transition rates which help in realization of internal efficiency.

In Ghana, Madagascar, Morocco, Niger, Senegal, Sierra Leone, and Uganda, the recruitment and retention of teachers remained a challenge, particularly where resources were limited. Schools resorted to hiring teachers on limited contracts, drawn from the community, outside the public service pay and tenure structures, as a way to provide the human resources needed to cope with rapid expansion (Antonowicz, Lesne', Stassen, and Wood, 2010). This was solved by upgrading the existing teachers, particularly licensed and paraprofessional teachers (Mbelle, 2008). This helped many learners to be retained in the school hence transition rates to the next grade improved.

Oke (2016) in his article on Influence of Early Childhood Instructional Supervision on Caregivers' Effectiveness in Federal Capital Territory Centres in Nigeria noted that when a child's first teacher is poorly trained, the foundation of learning will be poor. Hence, teacher qualification is important for the learners to learn effectively and transit to the next grade. If the school goals and objectives have to be met, then it follows that teachers must be well trained. When teachers are not given on the job training or orientation on the same from time to time, their knowledge on provision of the learning environment, adequate learning facilities, and adequate instructional materials such as text books becomes outdated. This was found relevant by Afoma&Omotuyole (2013) who observed that when instructional materials are not well utilized due to ignorance of the teachers, efficiency of education marked by slowed communicative competence of the learners is experienced which eventually leads to absenteeism.

Research studies by Mbilinyi (2003) indicate that teacher's background, such as academic qualifications and teaching experience is related to the student achievement. He further noted that teachers have a very big role to play in the teaching and learning process. They are also the chief facilitators for learning to take place thus contributing to the acquisition of learner competencies. He identified the two main factors about teachers that seriously affect school performance. These are adequacy and quality. The inadequacy of teachers in a school causes idleness, boredom in the learners and wastage of time and consequently low internal efficiency.

The government is further trying to address this gap by providing in-service ECD training to primary school teachers so as to meet the issues related to unprepared early grade pupils. This has been helping primary school teachers to improve in handling pupils in early grades for greater efficiency though the number of teachers upgrading has to be improved. Lockheed and Verspoor (1991) suggest that the cost of initial training can be reduced by using shorter initial training periods and greater use of teacher in-service sessions. They further suggest that it may be more cost-effective to focus on initial training because of organizational and physical realities that may prelude

mounting expensive in-service training sessions for teachers. Class size may not be relevant, but in situations where there are more than 50 pupils to a teacher in crowded classrooms, class management can be problematic and hence learning can be affected. Even if examinations are useful in monitoring quality, the negative effects created by competition may cause greater problems for students and teachers.

Ayiro (2016) highlighted the four factors suffocating our education system in Kenya. He recognized that teachers are central in education sector as they determine what students achieve. He also noted that for teachers to apply all skills and strategies of effective teaching, they must be exposed to continuous professional development through in-service training beside proper remuneration. He further noted that infrastructure is another factor and that it is documented that the instructional material and infrastructure provided under, FPE, FDSE are grossly inadequate.

Jacques and Vidya (2013) noted that Kenya has school-based teacher development program. This is a training of one teacher known as a Key Resource Teacher (KRT) in each school. The teacher is basically trained in Science, Mathematics and English. KRTs used a more problem-solving approach in their own practice, as they were more likely to use diverse teaching methods such as mixed ability group work and active encouragement of the use of library books. This retained student's engagement which resulted in learners being more actively engaged. Where teachers had insufficient skills, highly scripted lesson plans can provide direction and scaffolding which doubled student's reading score. This improves acquisition of learner's competencies since it encourages many learners to continue with their schooling progressively.

The County government of Embu had similar observation of inadequacy of trained ECD teachers in public primary schools. The report noted that at least 50 teachers were needed to lower the teacher-pupil ratio in schools since the teacher-pupil ratio was 1:32 which was quite high for ECDE (County Government of Embu Report, 2013). The report recommends the states to take active role in creating cohesive and aligned systems of professional development to ensure acquisition of education, skills and competencies so as to provide high quality ECE teachers who can effect smooth promotion of learners to the next grade. The report by Embu County in 2013-2014 advocated the teachers to be trained even to the level of diploma to degrees.

3. Methodology

The study adopted cross-sectional survey research design to assess the influence of ECDE teacher professional qualification on learner competencies in early childhood development and education in public primary schools in Embu County, Kenya. The study targeted ECDE teachers in public primary schools in Embu County.

Simple random sampling procedure was used to select schools for the study from the five sub counties namely Mbeere North, Embu West, Embu East, Mbeere South and Embu North. The study used the sample size taken from

these Sub Counties for study from 381 public primary schools with 380 ECDE schools. Ten percent of the schools from each sub county were considered for the study hence 10 percent of 96 schools in Mbeere North translate to 10 schools, 10% of 37 schools in Embu West are 4 schools, 10% of 71 schools in 4 Embu East comes to 7 schools, 10% of 140 schools in Mbeere South are 14 schools, 10% of 37 Schools in Embu North comes to 4 schools for the study.

Stratified random sampling procedure was used to arrive at the sample of teachers from the selected schools. The sample was drawn from three hundred and eighty (380) ECD teachers from each sub County. Those who participated in the study were a total of forty two (40) ECDE teachers, seventy six (76) lower primary teachers and thirty nine (39) head teachers. Stratified random sampling was used to select pre-primary schools for the study from each sub County.

This study used questionnaires to get information from head teachers, lower primary teachers and ECD teachers on teacher professional qualification and influence it has on learner competencies in their respective schools. The document analysis was done to get more information on teacher qualification level and influence it has on learner competency. The researcher used observation schedule so as to counter check the ECDE teacher qualification requirements and number of qualified teachers available. Relevant records and other documents were reviewed. These included admission records, completion registers, and documents of staff attendance register, inventories, personnel records, store ledgers, examination records, log book, learner attendance register and completion register. Information obtained included teacher qualifications and their influence on learner readiness to be promoted from primary to primary in the sampled schools.

To bring order, structure and interpretation to the mass of collected data, quantitative and qualitative information was analyzed using the Statistical Package for Social Sciences (SPSS) - version 19 to inform on accuracy of results.

4. Results and Discussion

Demographic characteristics of the respondents

Data on age, gender, academic qualification and teaching experience of the ECDE teachers was sought. This aimed at establishing whether opinion of the ECDE teachers across all ages, gender, academic qualification and years of teaching experience was captured. Most of the ECDE teachers who participated in the survey were males (62%). This shows that male teachers have become more interested in early childhood education which can improve their skills in competencies. In regards to age, ECDE teachers across all age groups from 20 to 60 participated in the study and it was established that a majority of them (90%) are between 30-40 years of age. This is a dynamic age when teachers can teach with a lot of fervor meaning that early childhood and education can improve a lot if the teachers can be equipped with competency skills which can be of great help to the children as they develop their necessary competencies. Moreover, results showed that ECDE teachers with college and university level of education constituted 57% percent while those with certificates were 43%. This shows that

majority of teachers require training on competency programmes so as to improve promotion rate of children in early childhood education, having acquired the required skills of competency for their life (Gatumu & Kathuri, 2017).

Influence of ECDE teacher professional qualification on promotion of learners in ECDE

This study sought to establish the influence of ECDE teacher professional qualifications on promotion of learners in public primary schools in Embu County. Respondents were asked to indicate their level of qualification from three choices; certificate, diploma and degree.

Table 1: ECD teachers' professional qualification

	Frequency	Percent
Confidence	18	42.9
Diploma	7	16.7
Degree	17	40.5
Total	42	100.0

As summarized in Table 1, the results indicate that a majority of the ECDE teachers (53%) have a certificate as their highest level of professional qualification. They are followed by degree holders (41%) and diploma holders (17%).

Whether ECDE teacher professional training enables delivery in class

The study also sought to examine if ECDE teacher professional training enables delivery in class. To determine this, the ECD teachers were asked to indicate whether their professional qualification enables them to teach well in class.

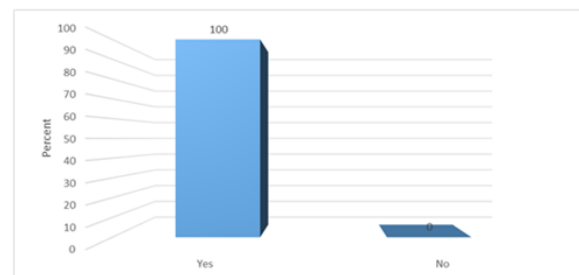


Figure 1: Whether ECDE teacher professional training enables delivery in class

As shown in **Figure 1**, all the ECDE teachers (100%) indicated that their professional training enables them to teach ECDE classes.

Reasons for ECD teachers feeling adequate to handle ECD classes

The study also sought to ascertain the reasons as to why teachers felt they are competent enough to handle ECD classes. The teachers were asked to select appropriately from three choices; having enough knowledge and experience, standard ones being able to read the content of class one well and familiarity with children.

Table 2: Reasons for ECD teachers feeling adequate to handle ECD classes

	Frequency	Percent
I have enough knowledge and experience	21	87.5
Standard one are able to read the content of class one well	1	4.2
Familiarize with children	2	8.3
Total	24	100.0

As shown in **Table 2**, the majority of teachers 88 percent said they are able to handle ECDE classes because they have enough knowledge and experience of handling ECDE classes. Another 8.3 percent said that they have familiarized themselves with pupils and a few 4.2 percent indicated that class one pupils are able to read well hence making it easy to handle them.

From the findings, 53% of ECDE teachers are diploma holders. This concurs with results of the Effective Provision of Pre-school Education (EPPE) study from England. This study addressed the question of whether higher staff qualifications lead to better results. Results indicated that a higher level of education is associated with higher pedagogic quality in Early Childhood Education and Care settings [ECEC] (ECEC, 2019). Furthermore, the study found that ECDE teachers with bachelor's degrees were the most effective practitioners. Effectiveness was measured within classrooms through stimulation, responsiveness and engagement of the children in learning activities (Howes, James & Ritchie, 2003). Ngware *et al* (2016) also revealed that many teachers had secondary and college as their highest qualification certificate level. It can also be deduced that many schools have adhered to the Early Childhood Development Service Standard Guidelines for Kenya which advocates ECDE teachers to have a certificate and preferably a diploma as a minimum level of professional qualification (Republic of Kenya, 2006).

In the survey, all ECDE teachers stated that professional training enabled them deliver in class. This finding is in line with a study by Wanjiru, (2015) that found ECE (Early childhood education) colleges as a credible source of guidance on almost every aspect of early childhood education and teacher preparation. Moreover, ECE colleges maintain a good reputation through collaborations with professional organizations, researchers, and partners to assist in their quality improvement activities and thus strengthening those very links to multiply ECDE learning potential impact on ECDE teacher education (Wanjiru, 2015). Also the study mimics the study done by Ngware *et al* (2016) which found that teachers got training from various institutions such as District Education Centre for Early Childhood Education (DICECE), Teacher Training colleges, Kenya Institute of Curriculum Development (KICD) and universities which enable them to deliver well in ECD classes though many teachers were not yet equipped with competency skills to enable them offer learning for life skills which can be of use for transition to later grades. Thus, professional qualification is of great importance and should be taken seriously by all who desire to teach in ECDE centers (Republic of Kenya, 2006).

Therefore, teacher's professional training is very important in quality early childhood development and education and especially in helping learners develop competencies which prepares them for promotion into the next grade and for life skills.

In ascertaining the reasons why teachers feel adequate, 87.5% gave the reason of having knowledge and experience while the rest focused on the children they taught. In concurrence with study by Wanjiru (2017), regular ECDE teachers who were classified as qualified ones felt there would be poor academic standards in teaching children with disabilities. What this implies is that even though they may have knowledge and experience, the state of the children just like in this particular study matters. This further concurs with Bean-Mellinger (2018) who observed that trained ECDE teachers deliver well in class but teachers still needed to be trained on competency programme so as to teach children life skills which will enable them live creatively in their contextual world.

5. Conclusion

In conclusion, teacher qualifications, professional training and adequacy do influence learning in public primary schools in Embu County. Although most ECDE teachers in Embu County are qualified to handle ECDE learning, though not in competency programme, the Ministry of Education, Embu County need to set mechanisms for training colleges to give feedback on their programs and especially in competency programme which is being implemented by primary schools in Kenya. This will ensure that the quality of education in early childhood training colleges in Embu County will improve. As observed from other studies, equipping ECDE teachers with the relevant skills such as competency programme will result in high quality outcomes in ECDE learning in Embu County and make promotion to the next grade easier.

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