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Implementation of early childhood development education service standard guidelines on physical facilities in public and private early childhood education centres Kakamega County, Kenya

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ABSTRACT

In 2006, the Kenyan Ministry of Education (MoE) developed an early childhood development education (ECDE) service standard guidelines to guide the ECDE stakeholders in provision of early childhood education (ECE) programmes. The study sought to investigate the implementation of the ECDE service standard guidelines on provision of physical facilities in ECE centres in Kakamega County. A descriptive survey design was adopted. Head teachers and ECE teacher were the study subjects. Structured questionnaires were used to collect data. The instruments were validated through expert judgement and pilot testing. The findings revealed that there were no significant differences in adherence to the government guidelines in provision of classrooms and furniture. Nonetheless, significant differences existed between the two categories in adherence to the government guidelines in provision of water and sanitary and play facilities. The study recommended that the MoE infrastructure fund should be extended to ECE centres.

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KEYWORDS

Private; public; implementation; service standard guidelines; early childhood education centres

Background information

Access to good quality pre-primary education has enormous impact on child's education outcomes with effects often lasting into later life (Berlinski, Galiani, & Gertler, 2006). Pre-school attendance is associated with enhanced cognitive, verbal and social development and children tend to demonstrate higher levels of school achievement, better social adjustment and less likely to repeat a grade (MacEwan, 2013). Research shows that investment in early childhood education (ECE) yields high returns in many areas; yet, many nations underinvest in it with majority accounting for less than 10% of their education budget and even lower budget for poor countries (UNESCO, 2014).

ECE in Kenya serves children aged 3–6 years preparing them for primary education. The main objective of ECE is to provide services for holistic development of children. The enactment of the 2001 Children's Act saw the government of Kenya establish guiding policies for ECE creating an opportunity for all children to access ECE. The County ECE bill, 2014 guaranteed every child to free and compulsory ECE provided by the County government. This has contributed to a tremendous expansion of ECE coupled with increased demand for ECE services. Total enrolment in ECE has

increased from 2,370,000 in 2010 to 2,749,000 in 2013 with a gross enrolment rate of 66.3% in 2014 from 60.9% in 2010 (Republic of Kenya [RoK], 2014). Nonetheless, enrolment remains low in urban slums and Arid and Semi-Arid Lands UNESCO (2006).

The changing lifestyle and family structure and the nation's quest for an educated population with a focus on early learning as a foundation for later success have further accelerated demand for ECE. Economic analysts of human capital point to the pre-schooling as the most cost-effective service for delivering returns. Increasing public investment in effective pre-school education programmes for all children can produce substantial educational, social and economic benefits (Barnett, 2009). However, (UNESCO, 2009) notes that early childhood services of good quality remain inaccessible to the majority of the world's children. This is especially true for children in the poorest countries and for the most disadvantaged among them.

Various efforts by the government, communities and other collaborating partners have resulted in intersectoral collaboration and a variety of education settings available to young children. Understaffing, regional disparities, lack of harmonized curricula and the availability of quality preschools are continuing challenges. Parents have to make choices based on the cost, accessibility, quality and relevance of the ECE programme. Orkin, Yadete, & Woodhead (2012) note that most governments in the sub-Saharan Africa largely rely on private providers and non-governmental organizations (NGOs) including community-based initiatives to provide early child care and education (ECCE) programmes. There are also significant shortages of skilled early years teachers and other ECCE personnel, including managers and community workers.

Services for pre-schoolchildren in Kenya are provided by other than the state, actors such as NGOs, faith-based organizations, communities and commercially oriented private entrepreneurs each with different motives for their involvement in pre-education. There is, however, a blurring of the distinction between for-profit and not-for-profit institutions, and the motivations for profit making in education may differ between preschools, with implications for the type of education offered. Private ECE centre is defined as: 'all formal pre-schools that are not public, and may be founded, owned, managed and financed by actors other than the state (Kitaev, 1999). Hypothetically, the private ECE centres are characterized by adequacy in resources, good-quality teaching/learning environment, low staff pupil ratios, adequate and appropriate play and other physical facilities, clean and hygienic sanitary facilities, balanced diet and a child-friendly environment.

Kenya remains the only country on the African continent with an established ECE infrastructure; it is, therefore, drawing many African ECCE professionals to its training programmes, while providing models for other African countries to consider and adapt to their situation (Mbugua, 2004). The government of Kenya allocates less than 1% of the Ministry of Education (MoE) budget to the pre-school. This has necessitated the communities including the private sector to manage 75% of the pre-schools (SIDA, 2006).

Fees charged to parents in public preschools is entirely used for payroll costs which averages between 200 and 300 Kenyan shillings while teachers' salaries average around |KSh. 2000 per month, with large variations between rural and urban preschools (UNESCO, 2005). In Nairobi County, for example, teachers' salaries for church-sponsored ECE centres range between |Kshs. 1500 for majority of the centres within the slums and Kshs. 20,000 for centres within the affluent areas of the county. However, about half the schools paid between |Kshs. 1500 and Kshs. 9000. This gives a big disparity in the remuneration among teachers of the same class and category (Kombo & Gogo, 2004). Whether or not teachers get paid depends largely on availability of parental contributions who are the major financiers of ECE Sitati, Bota, and Mwangi (2014). Thus, teachers' salaries are not stable and fluctuate each month depending on the level of contribution from parents. In some cases, teachers stay on after official working hours and are paid to look after some children whose parents delay to pick them up at the required time. Other teachers are paid to go to the homes of children to provide residential care (UNESCO, 2005). A study by (Tooley, 2001) revealed that an average teacher in private school in India earned significantly less (around \$9.50 to \$ 119)

than their counterparts in state-owned schools (varying from \$95 to \$200), although both sets of teachers are qualified.

With the introduction of Free Primary Education, government funding for ECE, which had grown to 0.8% of the total Ministry of Education Science and Technology (MOEST) expenditure by 2001/2002, was more than halved in 2002/2003, although it recovered in 2003/2004. From the 2012/2013 Education Budget, ECE sub-sector was allocated 1.6 billion, representing 0.686% of the total MoE expenditure (RoK, 2012). Worse still, parents do not understand why primary education should be free and not ECE; they have therefore begun resisting paying ECE fees, choking off a vital source of funding.

Early Childhood Development Service Standards Guidelines for Kenya (2006) was developed to operationalize the national ECD policy framework and the Children's Act (Revised 2001). The main aim was to provide specific service standard guidelines that ensures all the ECD service providers provide quality accessible and equitable ECD service for young children. The guidelines provide the required standards on establishment, registration of ECD centres and colleges, management and supervision of ECD services. Monitoring tools for Quality Assurance and Standards in curriculum in ECD centres are also provided. However, there are gaps between policy and practice, for instance, there is no central organization mandated to register ECE centres. RoK (2006) reports that lack of clearly defined service standard guidelines leads to reduced quality of service, inadequate coordination of service provision and inequitable distribution of the service.

In Kenya, the increase in private and for-profit preschools, especially in the urban centres of Nairobi, Mombasa, Eldoret and Nakuru, has been prompted by the unofficial requirement that children entering primary school demonstrate school-readiness skills typically developed in a kindergarten or pre-school setting (Mbugua, 2004). However, these pre-school settings vary in quality, from those that are well equipped with adequate teaching/learning resources, physical facilities, computers and indoor and outdoor play areas and equipment, to those that are in need of these resources. Preschools located in affluent areas of the charge higher fees, attract more qualified teachers who are paid well, have well-established teaching and learning resources and facilities (Ngaruiya, 2006).

Some ECE centres in rural areas and urban slums are classified as private by virtue of being run by individuals; yet, they are worse than the public ECE centres in terms of providing the requisite facilities. In affluent locations of both rural and urban areas, the scenario is different as the centres are better equipped with colourful teaching/learning resources, play and other physical facilities and expenditure per child is higher. Parents pay higher fees and as a result, teachers earn more as compared to those in the rural and urban slums and public ECE centres. Private ECE centres are costly, exacerbating inequality as only the rich can access quality private ECE centres UNESCO (2014). A study by Young (2002) reveals that the benchmarks of a quality early childhood development education (ECDE) programme are based on the ECDE input and process and adequate physical facilities, outdoor play equipment, learning materials, stable and trained staff. Children who do not receive good-quality ECE are less likely to succeed in primary school and subsequent levels of education Barnett (2009). The potential role of the private sector in school systems has attracted increasing policy attention during the past decade, including from international donors looking for innovative ways to extend access to quality education (Development for International Development [DFID], 2011).

Public ECE centres also range in variety and scope from those that exist within the regular public primary schools to those that are run by voluntary organizations such as the religious organizations, and various charities. These centres are characterized by low funding from the government and other stakeholders, inadequate teaching/learning resources, inadequate and inappropriate play and other physical facilities, high teacher:pupil ratio, low pay for teachers and sometimes, teachers go for several months without pay (UNESCO, 2005). The public ECE centres are accessed by the children from poor families who cannot afford the cost of private ECE services. The United Nations Educational, Scientific and Cultural Organization (UNESCO) reiterates that while pre-school and primary enrolments have increased dramatically, far too many young children are being taught in classrooms that are overcrowded and with few resources, and taught by formal 'rote learning' methods, with little opportunity for more activity and play-based learning (UNESCO, 2006).

Objective

The objective of the study was to establish whether there were differences between private and public ECE centres in adherence to the Government service standard guidelines in provision of physical facilities in Kakamega County, Kenya.

Research methodology

A descriptive survey design was used to investigate whether there were differences between private and public ECE centres in adherence to the Government service standard guidelines in provision of physical facilities in Kakamega County, Kenya. The design helped to establish the nature, the state and the current condition of the phenomenon (Enon, 1998). It also recorded, analysed and interpreted relationships or conditions as they exist without manipulating variables (Kothari, 2003). The location of the study was Kakamega County, one of 47 counties in Kenya with 11 administrative sub-counties. The area was selected for the study because of the diversity of the County in terms of existence of urban and rural settings, a variety of socio-economic activities as well as being the largest county in the Western region and the second largest county of Kenya. The location was easily accessible to the researcher.

The study targeted all the 1820 (950 public and 870 private) ECE centres in the county. The County was zoned into three regions. Kakamega region had four sub-counties, Lugari region covered three sub-counties while Mumias region had four sub-counties. Purposive sampling was used to select one sub-county from each region in the County with both urban and rural settings to participate in the study. The selected sub-counties had a unique characteristic as the number of private ECE centres was much more than that of the public ECE centres. Proportionate stratified random sampling was used to select the participating ECE from the selected sub-Counties. Head teachers and one teacher from the sampled ECE centres participated in the study. However, where more than one teacher was found in an ECE centre, simple random sampling through balloting was used to select the one to participate.

Data collection instruments

Data were collected using structured questionnaires with Likert-scale questions for both the head teachers and the teachers which yielded quantitative data (Appendix 1). The instrument was piloted and the results were used to calculate reliability and validated through experts' judgement. Data were edited, coded and analysed by use of Statistical Package for Social Sciences. Both descriptive and inferential statistics were used to analyse quantitative data.

Content validity was insured by developing the instruments in such a way that all the concepts in the objective were included in the instruments (Mugenda & Mugenda, 2003). Experts' judgement was sought to verify the adequacy in coverage of the topic and ensure that the questions were logically arranged and all the aspects were well covered. This ensured that the instruments yielded both face and content valid data. The same experts assisted in ensuring contrast and face validity.

The instrument was then piloted and the results were used to calculate the reliability of the questionnaires. Split half method was used after which Cronbach's coefficient Alpha was computed to determine how items correlated among themselves, yielding a correlation coefficient of 0.75 (Mugenda & Mugenda, 2003).

Ethical considerations

The ethical issues considered during the study were access and acceptance, informed consent, privacy (anonymity and confidentiality) and misrepresentation of data or deception. Access and acceptance involved gaining official permission to undertake the research in a target ECE

centre. Access and acceptance in this study were attained by the researcher getting permission from the County Director of Education, securing a research permit from the National Council for Science and Technology and thereafter seeking permission from the head teachers and managers of ECE centres whose centres were selected for study. Informed consent was ascertained by informing the participants of the nature and purpose of the study and assuring them that there were no risks involved in the study. At the beginning of the study, the participants were informed that their participation was voluntary. On privacy (anonymity and confidentiality), the information provided by the participants was not to be traced back to them under any circumstances.

Findings

The main objective of the study sought to establish whether there were differences between public and private ECE centres in their adherence to the Government service standard guidelines on provision of physical facilities in Kakamega County. The facilities of concern to the study were classrooms, furniture, water and sanitation and play. Four null hypotheses were formulated for this purpose.

Teachers were asked to indicate their perceptions on a five-point Likert Scale of: 1 – Strongly agree, 2 – Agree, 3 – Undecided, 4 – Disagree and 5 – Strongly disagree on how their ECEs adhered to the Government Service Standard Guide lines on the provision of classrooms. The mean responses were computed where a mean between 1 and 2.5 implied the ECE centres' adherence to the government ECE service Standard Guidelines, a mean more than 2.6 indicated that the ECE centres did not comply with the ECE government service Standard Guidelines. Group means were calculated to establish the differences in means between the two categories of ECE centres. Independent mean *t*-tests were carried out to establish whether there were statistically significant differences between the categories of ECE centres in adherence to the Government service Standard Guidelines on provision of physical facility.

Provision of classrooms

Five indicators on provision of classrooms were identified as stipulated in the ECD Service Standard Guidelines for Kenya. The respondents were asked to indicate the extent to which they agreed to the provision of these resources. The means and standard deviations were computed and the results are presented in Table 1.

From Table 1, the study findings on the state of the classrooms indicate compliance by private ECE Centres on classrooms being of standard size (1.87), well-ventilated classroom (2.29) and adequacy and availability of classrooms (1.96). The implication is that the private ECE centres had adhered to the government Standard Guidelines in terms of standard classroom size, ventilation and adequacy of classrooms. The table further indicates non-compliance on classes having proper roofing, windows, doors and floors to protect children from harsh weather and classrooms being accessible for use by children with special needs.

Table 1. Teaching experience of the respondents.

Teaching experience	Head teachers		Teachers	
	<i>F</i>	%	<i>f</i>	%
Less than 2 years	3	1.6	4	2.2
2–4 years	6	3.3	18	9.8
5–7 years	20	10.9	36	19.6
8–10 years	9	4.9	107	58.2
10 years and above	146	79.3	19	10.3
Totals	184	100	184	100

Source: Field data.

Table 2. Provision of classrooms.

Classrooms	Private ECE centre			Public ECE centre		
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD
Classroom is of standard size (8 × M)	86	1.87	1.104	83	2.36	1.445
Classrooms are well ventilated	87	2.29	1.180	90	2.02	1.245
Classes have proper roofing, windows, doors and floors to protect children from harsh weather	87	2.64	1.094	90	2.60	1.397
Class rooms are available and adequate	97	1.96	0.938	89	1.89	0.897
Class rooms are accessible for use by children with special needs	86	3.10	1.398	90	3.41	1.421

Source: Field data.

The public ECE Centres manifested compliance on standard size classroom (2.36), well-ventilated classrooms (2.02) and availability and adequacy of classrooms (1.89). Non-compliance was indicated on classrooms having proper roofing, windows, doors and floors (2.60) and classrooms being accessible for use by children with special needs (3.41). There were similarities in the means for the two categories in classes: have proper roofing, windows, doors and floors to protect children from harsh weather (mean of 2.64 and 2.60 for private and public, respectively) and classrooms being available and adequate (means of 1.96 for private and 1.89 for public).

Further analysis was done to establish if the differences in the adherence to the government guidelines in provision of classrooms facilities were statistically significant. The overall means of the five items on classroom index were determined for both the categories of ECE centres. The overall means of the two groups were established. The *t*-test results are presented in Table 2.

Results in Table 2 show a higher mean for public ECE centres ($M = 2.59$, $SD = 0.99$) as compared to that of the private ECE centre ($M = 2.57$, $SD = 0.91$). The difference in means between the two groups was not statistically significant at $\alpha = <0.05$ level, the *t*-value was 0.146, $P = .884$. The *P* value was greater than the set threshold of 0.05.

Provision of furniture

To determine whether there was a statistically significant difference in adhering to the Government Standard Guidelines in the provision of furniture between public and private ECEs in Kakamega County, various aspects of furniture were investigated. The means and standard deviations of these indicators are as summarized in Table 3.

The findings in Table 3 indicate that the ECE centres complied with the ECD service Standard Guidelines on provision of furniture except for the classrooms being furnished with a teacher's chair, table and a cupboard which is rated with a mean score of 3.07 and 2.74 by teachers in private and public schools, respectively. The results further indicate a higher deviation (1.311 and 1.370) between the private and public ECE centres on provision of children's tables and chairs. The two categories of ECE centres had a mean of 2.10 for private and 2.80 for public schools.

Furthermore, to establish if there was a statistically significant difference in adherence to the government guidelines in the provision of furniture between private and public ECEs, an independent sample *t*-test was conducted. The *t*-test results are tabulated in Table 4.

Results in Table 4 reveal that the means score ($M = 1.74$, $SD = 0.501$) for public ECE centres on furniture was higher than the mean ($M = 1.69$, $SD = 0.43$) of private ECE centres. The differences in the two means were not statistically significant at $\alpha < 0.05$ level ($t = 0.78$, $p = 0.44$).

Table 3. *T*-test results on the classroom index.

Centre category	<i>N</i>	Means	Standard deviation	Df	<i>t</i> -value	<i>p</i> -value
Public	90	2.59	0.997	175	0.146	0.884
Private	87	2.57	0.906			

Note: The difference is not statistically significant at $\alpha = <0.05$.

Table 4. Means on provision of furniture.

Furniture	Private ECE centre			Public ECE centre		
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD
Tables and chairs are children size	86	2.10	1.311	86	2.80	1.370
Desks and chairs are detached	90	1.51	0.503	89	1.40	0.494
Classroom furnished with a teacher's chair, table and cupboard	85	3.07	1.486	90	2.74	1.503
Desks and tables are adequate	92	1.80	0.802	90	2.03	0.814
Chairs are adequate	94	2.14	0.934	90	2.01	1.107

Source: Field data.

Provision of water and sanitary facilities

Statistical analysis was done to establish whether there were significant differences in adherence to the Government Service Standard Guidelines on the provision of water and sanitation facilities between private and public ECE centres in Kenya. The results are indicated in [Table 5](#).

Means for the indicators on sanitary and water were analysed for the two categories of ECEs. The analysis revealed compliance by the private ECE centres on teachers having separate toilets, children's toilets being age-appropriate, the centre providing safe and clean water for use and the ECE centre having hand-washing facilities. This means that the private ECE centres had adhered to the Government Standard Guidelines on the said facilities. Non-compliance was reported on the pit latrines being more than 6 m or 20 feet and 15 m away from water bodies and the water bodies in the ECE Centres having been fenced. The public ECE centres' compliance was reported for the centre providing safe and clean water for use and the ECE centre having hand-washing facilities. The results show minimal compliance by the public ECE centres on most indicators. The implication is that the public ECE centres had not implemented the guidelines on most indicators jeopardizing the health of the children accessing those centres.

Independent sample *t*-test was done on water and sanitation facilities to establish if there was a statistically significant difference in adherence to the Government Service Standard Guidelines in the provision of these facilities. The results are presented in [Table 6](#).

Results in [Table 6](#) reveal that the mean score ($M = 2.86$, $SD = 0.89$) for public ECE centres on water and sanitation was higher than the mean ($M = 2.40$, $SD = 0.83$) of private ECE centres. The difference in the two means was statistically significant in favour of private ECE centres at $\alpha < 0.05$ level ($t = 3.42$, $p = 0.001$).

Table 5. Independent sample *t*-test on availability of furniture.

Centre category	<i>N</i>	Means	Standard deviation	Df	<i>t</i> -value	<i>p</i> -value
Public	90	1.74	0.501	181	0.78	0.44
Private	93	1.69	0.434			

Note: The difference is not statistically significant at $\alpha = <0.05$.

Table 6. Means on provision of water and sanitary facilities.

Sanitation and water	Private ECE centre			Public ECE centre		
	<i>N</i>	Mean	SD	<i>N</i>	Mean	SD
Boys, girls and teachers had separate Sanitary facilities	84	2.18	1.337	90	3.17	1.516
Children's toilets are designed for children	82	2.28	1.317	90	2.79	1.418
Pit latrines are more than 6 m or 20 feet deep and is in away from the water bodies/ boreholes	84	2.82	1.577	90	2.70	1.361
Our ECE Centre provides safe and clean water for use	84	1.94	0.986	89	2.46	1.415
The water bodies in our ECE centre are fenced	80	3.03	1.432	90	3.20	1.530
Our ECE centre have held washing facilities	94	2.13	0.975	90	1.90	0.960

Source: Field data.

Provision of play equipment and play grounds

Further analysis was done to establish provision of play equipment and playgrounds in the two categories of ECE and the results are presented in [Table 7](#).

Findings of the study on the provision of play equipment and playgrounds show that private ECE centres complied with the guidelines on the following: play and learning equipment being age and developmentally appropriate (2.20), surfaces of outdoor play areas being free of sharp objects, harmful plants and discarded materials and equipment (2.24), playground being fenced (2.45) and the playground being clean and well kept (1.87). The centres registered non-compliance in: play items and materials being serviced and maintained once a term (2.58), outdoor play area being large enough or the number of children in the centre to play and run around safely (2.90), the playground and materials being adopted for the children with special needs (2.80), play equipment being securely fixed and safe (2.88), play equipment being brightly coloured (2.90), adequacy of play equipment (2.53), availability of soft landing for slides (3.36) and availability of low-level swings for children (3.28). The findings therefore reveal that the stakeholders in private ECE centres had not provided most of the play items which are important in provision of ECE services.

The public ECE centres with means within the strongly agree and agree region had surfaces of outdoor play areas being free from sharp objects, harmful plants and discarded materials and equipment (2.48), adequacy of playing equipment (2.46) and clean and well-kept playground (2.03). Non-compliance was registered for the following indicators: play and learning equipment being age- and developmentally appropriate (2.80), servicing and maintaining of play items and materials (2.89), outdoor play area being large enough for the number of children in the ECE centre to play and run around safely (2.71), playground and materials being adopted for the children with special needs (2.98), safe and securely fixed play equipment (2.93), brightly coloured play equipment (3.09), availability of soft landing for slides (3.09), and availability of low-level swings for children (3.42). Stakeholders of this category of ECE centres had played a minimum role in provision of play items, undermining the important role of plays in helping children to develop the psychomotor skills (Whitebread, 2012).

The results were further analysed to establish if there were differences in the provision of play equipment and grounds in the two categories of ECE centres. This was investigated by using the independent sample *t*-test. The results are presented in [Table 8](#).

Results on [Table 8](#) reveal that the means score ($M = 2.71$, $SD = 0.54$) for public ECE centres on provision of play equipment and grounds was higher than the mean ($M = 2.48$, $SD = 0.59$) of private ECE centres. The differences in the two means were statistically significant in favour of private ECE centres at $\alpha < 0.05$ level ($t = 2.83$, $p = 0.005$) as indicated on [Table 9](#).

Discussions

Quality of services at the ECE centres is a reflection of the facilities provided to the centres by the stakeholders. Appropriate and adequate physical facilities are necessary for effective teaching/learning in ECE. From the above findings, it is clear that there exist disparities in provision of these facilities in favour of the private ECE centres. Most ECE centres had inadequate basic facilities, which are very important for quality teaching and learning at the ECE centres. This was supported by The Koech

Table 7. Independent sample *t*-test on provision of water and sanitary facilities.

Centre category	<i>N</i>	Means	Standard deviation	Df	<i>t</i> -value	<i>p</i> -value
Public	90	2.86	0.89	172	3.42	0.001*
Private	84	2.40	0.83			

Note: The difference was statistically significant $\alpha < 0.05$ level.

*The *p*-value was less than the set threshold of 0.05 alpha level and therefore giving a statistically significant difference between the two categories of ECE centers.

Table 8. Means on provision of play equipment and grounds.

	Private ECE centre			Public ECE centre		
	N	Mean	SD	N	Mean	SD
Play equipment						
Play and learning equipment age-appropriate	83	2.20	1.341	89	2.80	1.272
Play items and materials are serviced once a term	84	2.58	1.319	90	2.89	1.394
Outdoor play area is large enough for the number of children in the centre to play and run around safely	79	2.90	1.549	89	2.71	1.400
Surfaces of outdoor play areas are Free of sharp objects, harmful plants and discarded materials and equipment	84	2.24	1.238	90	2.98	1.414
The playground and materials are adapted for the children with special needs	81	2.80	1.391	90	2.98	1.414
Play equipment are securely fixed and safe	93	2.88	1.293	88	3.09	1.256
Play equipment are brightly coloured	93	2.90	1.269	88	3.09	1.256
The centre has adequate playing equipment	94	2.53	1.085	89	2.46	1.077
The centre has soft landing for slides	89	3.36	0.968	88	3.09	0.905
The centre has low level surfacing for children	93	3.28	0.955	90	3.42	0.807
The playground is well fenced	93	2.45	1.068	90	2.68	1.262
The playground is well kept and clean	93	1.87	0.837	90	2.03	1.026

Source: Field data.

Table 9. Independent sample *t*-tests on provision of play equipment.

Centre category	N	Means	SD	Df	<i>t</i> -value	<i>p</i> -value
Public	90	2.71	0.54	182	2.83	0.005
Private	94	2.48	0.59			

Note: The difference is statistically significant $\alpha < 0.05$ level.

Report (RoK, 1999), which reported that many ECE centres were characterized by inadequacies in basic facilities such as furniture appropriate for children, play grounds, properly ventilated rooms and kitchens and inadequate water among others. The International Association for the Education of Young Children (1991) states that the quality of the physical space and material provided affects the level of involvement of the ECDE children and the quality of interaction between the teacher and the children. Shiundu and Omulando (1992) observes that creation of a sustainable learning environment helps deprived children to improve in their academic performance. A report of the task force on the alignment of education sector to the constitution of Kenya 2010 revealed that infrastructure and teaching/learning equipment are poor in most ECDE schools. Furthermore, most of ECDE infrastructures are unplanned and unsuitable for teaching and learning at the ECDE level (RoK, 2012). Other studies showed that the government does not help in construction of learning facilities. As a result, a number of pre-schools do not have permanent building. Teaching and learning are held outdoors under trees or stones. The inadequacies of these physical facilities hampered the normal learning/teaching process National Association for Education of Young Children ([NAEYC], 1991).

The results in Table 1 show that both the public and private ECE centres did not adhere to the ECD Government Service Standard Guidelines on provision of classroom. The implication is that the classroom facilities were provided without reference to the ECD service Standard Guidelines (RoK, 2006). This in turn affects the level of involvement by the teachers and the children as the children's movement and manipulation of teaching learning aids are restricted to a smaller area. Further still, the non-conformity to the ECD Service Standard Guidelines on classrooms in both public and private ECE centres is an indication that classrooms do not provide opportunities for ECE children to explore and learn effectively, impacting negatively on the quality of services offered.

UNICEF through child friendly environment initiative has made some progress in improving the quality of ECE centres, especially in Muslim ECDE centres as evidenced by the classroom arrangement (UNICEF, 2003). NAEYC links quality education to the environment in which it is provided (Bondrova, Leong, & Shore, 2004). This is supported by the Nebraska and Iowa Departments of Education, 1994,

which defines an appropriate learning environment for the ECDE children as the one that provides time opportunities for children to experience and respond actively to their world. The environment should be social in nature providing secure and stimulating climate for all children. Lombardi (1992) notes that ECDE learning environment should be based on development-appropriate practices. This means that an ECDE classroom should respond to the natural curiosity of young children, reaffirm a sense of self and promote positive dispositions towards learning. The Organisation for Economic Corporation and Development (OECD) report entitled 'starting strong' emphasised the important role played by the government in providing adequate infrastructure in some ECE centres in sub-Saharan Africa.

Young children should be given the comfort they need within their learning environment. Desks and chairs should be detached so that the sitting arrangement can be varied to allow more interaction among and between children and the teacher. RoK (2003) recommends that buildings and physical facilities for young children should meet the basic standards of space, comfort and safety.

The importance of proper hygiene practice is emphasized by Rabie and Curtis (2006) who observed that installation of hand-washing stations in schools and provision of training in hygiene improve children's health and hygiene practices which later reduce absenteeism from school. School-children have the highest infection prevalence of any group (Mooijman, 2012). Other studies have revealed that hand-washing with soap reduces diarrhoea-related absenteeism by 30% (Talaat et al. 2011). Sanitary and hand-washing facilities are very important for the hygiene and health of the child as good hand-washing reduces transmission of diseases and infections. The RoK (2006) recommends that apart from a ratio 1:25 of toilets to pupils, every ECE centre should have at least one toilet for every 12 teachers. These facilities are very important without which the school cannot operate effectively. Majority of the public schools do not have separate sanitary facilities for the ECE children, posing a health hazard to the young children. Woodhead (2014) notes that lack of toilets in schools is a major reason for girls not to attend school.

Young children acquire knowledge in ways that are significantly different from the way older children learn. They learn by manipulating, exploring and experimenting with objects (Murundu, Indoshi, & Okwara, 2010). Play makes a significant contribution to all aspects of children's development, and many early skills and competencies can be acquired through play (Brooker & Woodhead, 2013). Both free play in family settings and planned play in preschools have been encouraged by parents and educators who are keen to promote all aspects of children's development: their physical, cognitive, language, social and emotional development.

Active play with natural and manufactured materials introduces children to key concepts of shape, size, pattern and number. With the support of adults, children gradually move from their own working theories of the world to a more scientific or academic understanding. Through play, children also learn higher order skills needed for creative thinking, planning and problem-solving. Play is an integral component of the ECE curriculum and requires an environment or setting that is safe and free from obstacles. Play offers opportunities to move beyond existing ways of being, to transform structures and cross borders Thorne (1993).

Children learn better through play, discovery and imitating. This is only possible if the appropriate and adequate play equipment and materials are provided to the children. Facilities that meet the needs and interest of the child should be provided and the learning environment and materials should be child-friendly, brightly coloured and suitable for the age of the child. This makes learning interesting and fun, motivating the child to love learning. This statement is re-emphasized by Pestalozzi (1946–1827) who believed that children learn better through activity, doing, use of all the senses and interacting with physical and human environment. This helps the child to develop concepts of language and practical skills. Oers (2003) supports this view by underscoring the important role of play in teaching in ECE as it forms the basis for young children's learning activities. This is only possible if the stakeholders provide the necessary play equipment and materials to both the public and private ECE centres. Dewey (1857–1957), the father of child-friendly school, supported the idea of

children learning through play. The physical facilities for young children should meet the basic standards of space, comfort and safety (RoK, 2003).

Conclusions

With regard to whether differences existed between the private and public ECE centres in the adherence to government guidelines in provision of physical facilities in ECE centres, the study concluded that there were no significant differences in provision of classrooms and furniture between the public and private ECE centres. However, significant differences existed in provision water and sanitation and play facilities among the public and private ECE centres in favour of the public ECE centres. There is therefore need for a more transformative approach by the government to rethink and incorporate the ECE sub-sector in the infrastructure fund that will ensure that the ECE centres are adequately supplied with resources to improve their physical facilities. The government should also set up a special fund for ECE equipment and refurbishment of physical facilities.

Policy implications

It is paramount that physical facilities play a crucial role in enhancing the quality of ECE programmes. The policy on partnership sets to bring stakeholders on board to ensure that both public and private ECE centres are adequately equipped with these facilities. It is therefore up to the central government to develop a clear policy framework and coordination mechanism that can not only bring all stakeholders on board but also ensure that there is equitable access to both private and public ECE centres by both the poor and the well-to-do families.

Clear mechanisms to subsidize ECE services should be sought to encourage private investors and at the same time more investment by the central government in public ECE centres. This may include, but not limited to, infrastructure funding and extending the free primary school policy to ECE centre. Quality assurance mechanisms should also be enhanced by engaging quality assurance officers specifically for the ECE sub-sector to not only assure quality but also ensure adherence to the service standard guidelines.

Quality at ECE centres is determined by other factors rather than physical facilities. The policy-makers should therefore ensure that the ECE centres have the requisite teaching learning resources, adequate and appropriate teaching and support staff and qualified management and governance personnel. This will ensure efficiency and effectiveness of the ECE programmes.

Children health directly affect implementation of ECE programme. This can only be achieved by laying clear strategies that can enhance hygiene and sanitation in the ECE centres. The government through the Ministry of Education should therefore develop clear policies on hygiene and sanitation and put in place clear implementation mechanisms. There is need for the government to provide clear guidelines that shall distinguish between the private and public ECE centre. This is because in some areas, there is no distinction and the state of private ECE centres is worse than one could expect.

There is need for the government to enact clear policies that can increase access and remove discrimination and inequality to high-quality ECE for all children in addition to creating public awareness on the importance of ECE. In addition, more innovative empowerment programmes for communities may be timely, especially for women. Finally, ECE should be enshrined in the free primary education policy and be declared as basic education.

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Appendix 1

Survey tool

The following are standards for provision of physical facilities in ECE centres as stipulated by the MoE in the Early Childhood Development Standard Guidelines for Kenya. Besides each item put a tick (✓) to either SA – strongly agree, A – Agree, U – Undecided, D – Disagree or SD – Strongly Disagree on your view regarding the status in your centre.

		SA	A	U	D	SD
1	Our ECE classroom is of standard size					
2	Our ECE classrooms are well ventilated					
3	Classes have proper roofing, windows, doors and floors to protect children from harsh weather.					
4	Tables and chairs provided are children's size					
5	Classrooms are accessible for use by children with special needs, that is, have ramps, rails and lower handles					
6	Our classrooms are furnished with a teachers chair, table and cupboard					
7	Boys, girls and teachers have separate toilet facilities					
8	Children's toilets are designed for children					
9	Pit latrines are more than 6 metres or 20 feet deep and 15 metres away from the borehole					
10	Our centre provides safe and clean water for use					
11	Play and learning equipment are age- and developmentally appropriate.					
12	Play items and materials are serviced and maintained once in a term					
13	Outdoor play area is large enough for the number of children in the centre to play and run around safely.					
14	Surfaces of outdoor play area are free of sharp objects , harmful plants and discarded materials and equipment					
15	The compound is regularly cleaned and maintained					
16	The playground and materials are adapted for the children with special needs					
17	The ECE compound is fenced off and has a lockable gate					
18	The centre has a compost pit located at the furthest corner of the compound and is enclosed.					
19	The water bodies in our centre are fenced off					