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CLASSROOM ENVIRONMENTAL SETTING AND PROVISION OF QUALITY EDUCATION IN PUBLIC PRE-SCHOOL CENTRES IN WEST POKOT COUNTY, KENYA

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Abstract:
The quality of learning environment in classroom setting is critical to effective teaching and learning process in classroom. This research paper presents the results of study conducted in West Pokot County public Early Childhood Development Education centres with regard to classroom environmental setting and provision of quality education. The study involved use of qualitative and quantitative research methodology. The target population for the research involved 365 head teachers, 682 teachers and 4 DICECE officers. Data for the research was collected through use of questionnaire, interview and researcher observation. Data collected was analysed using descriptive and inferential statistics for quantitative data and thematic content analysis for qualitative data. Research results showed that 37.1% of ECDE centres studied were not having standardised environmental setting that could facilitate provision of quality education to pupils in West Pokot County. It was found out that less than 50% of classrooms were ventilated, only 24.9% of classrooms studied were found to have enough space for easy classroom movement and 36.1% of classrooms were found to be accessible by all learners. The study recommends that there is need for ECDE teachers to work with head teachers to ensure that classrooms setting are safe, secure and conducive for teaching and learning process. On the policy front, there is need for county government to work with national government to establish appropriate standards for ideal indoor classroom environmental setting for ECDE learners.

Keywords: indoor, classroom, setting, quality, pre-school

1. Introduction

Education is the key to national development and there is a need to maintain every level of education especially the pre-primary stage, because it is the bedrock upon which all other educational levels build (Assefa, 2014; Obiweluozor, 2015). Early Childhood Development Education (ECDE) is a common practice in most societies (Haile, 2010; Macharia, 2012). Early Childhood Education (ECE) is important in every nation's endeavour to meet the targets for Education For All (EFA) that are: quality early childhood education and care, free and compulsory primary education, life skill and training for youth, adult literacy, girls education and relevant basic education (Muthoni, 2013). Quality education refers to how much and how well children learn and the extent to which their education translates into a range of personal, social, and developmental benefits (Grimo, 2008; Ngware, Oketch & Ezeh, 2011). In another view, UNICEF (2010) observed that quality education in ECDE will be provided when pupils are healthy, nourished, and ready to participate in learning and supported by their parents and other community members. The report also noted that the learning environment to support quality ECDE education should be healthy, protective, gender sensitive, safe and with adequate instructional, infrastructural and other material resources.

Duruji, Azuh and Oviasogie (2014) observed that the learning environment remains an important area that should be studied and well managed to enhance learners' academic performance in schools. However, very little attention has been given to the learning environment. According to Hannah (2013), indoor classroom environmental setting on how a teacher organizes his/her class and control may yield positive or negative consequences for their learners in terms of provision of quality education. A supportive ECDE learning environment promotes the development of children's critical thinking skills (Maxwell, Mitchell & Evans, 2008). Such learning environment is created through interactions with indoor and outdoor activities that offer opportunities for children to set goals and persist in following through with their plans while acquiring new knowledge and skills through purposeful play (Ngode, 2014). Wangari (2003) noted that comparative research data needed to be collected on the status of learning environment in ECDE centres from different areas of the country that have got different social and demographic characteristics. This is because the situation of early childhood development programme is worsening day by day as majority of pre-school children in northern Kenya counties are learning in deplorable conditions.

Provision of quality education in early childhood development education remains a significant challenge for educators and policy makers in Kenya and West Pokot County in particular. The Uwezo Kenya (2012) report noted that 41.31% of pupils in class three were able to read Hadithi (story) while more than half 68.69% were not able to read and write. It was also established that 15.04% of children aged 3-5 years were out of school. This shows that there exist challenges in the provision of early childhood education in the West Pokot County. The study therefore investigated the influence of learning environment on provision of quality education in public ECDE centres in West Pokot County.

2. Purpose of the Study

The purpose of the paper was to establish the influence of indoor classroom environment setting on provision of quality education in public ECDE centres in West Pokot County.

3. Literature Review

3.1 Learning Environment in Early Childhood Education and Development

Learning environment are variables that can affect students' quality education provision in schools, including performance in examinations (Ajayi, Haastrup & Osalusi, 2010). Learning environment which include classroom spaces planning, administrative places planning, circulation spaces planning, spaces for conveniences planning, general infrastructure planning, the teachers as well as the pupils themselves are essential in teaching-learning process. The extent to which pupils' learning could be enhanced depends on their location within the school compound, the structure of their classroom, availability of instructional facilities and accessories.

3.2 Influence of Classroom Environmental Setting on Provision of Quality Education

It is generally accepted that the richer and more pleasant pre-school environment provides more opportunities for a child to explore, experiment, plan, and make discussions for them, thereby enabling them to progress in their learning and development (Assefa, 2014). Recommendations have been made for setting up an appealing environment to promote learning and interaction between children and teachers in schools (DeBruin-Parecki, 2008; Greenberg & Rodriguez, 2007). Research suggests that environment be set up to provide many opportunities for learning and movement between the different areas in the classroom to reduce distractions rate and

provides organization for the children's play opportunities (Greenberg & Rodriguez, 2007) hence provision of quality education in ECDE.

Okudo and Omutoyole (2014) indicated that a learning environment presents learning as a life – long enterprise and enables pupils in ECDE to establish appropriate value system that can be their compass for self-awareness and national consciousness Olagboye (2004) suggested that existing buildings in ECDE need to be regularly maintained and made functional by providing proper lighting, ventilation and good temperature condition for their effective and efficient utilization to ensure good working condition hence provision of quality education. The physical environment of classroom has a profound effect on individual child the group as a whole and on the others. The physical environment includes the size of the room, the colour of the walls, the type of flooring, the number of windows (Assefa, 2014). Classroom environment includes organized space in the interest centers. This may include areas of art, science, blocks, books, dramatic play, sensory materials, music, woodworking, and manipulative toys and games. In addition to these, library, discovery, sand and water, cooking and computers are components of classroom environment (Haile, 2010).

Moreover, the instructional resources and classrooms should be accessible to all pupils regardless of disability or language difference. Learning resources and areas like textbooks books about people from various cultures and backgrounds; plastic play food could include items from various cultures-play rice and environment like posting pictures of people from multiple cultures and backgrounds should reflect the diversity of the children in the classroom (Worthington, 2008) to enable provision of quality education. According to Mark Schroeder (2002) cited by Jepleting (2013) persons (school management) involved in school planning and design see standardised environmental setting as an opportunity to enhance academic out comes by creating better learning environment, quiet, safe, comfortable and healthy environments for ECDE children in their acquisition of necessary skills during teaching and learning. There is a growing body of work linking educational achievement and learners performances to the quality of air they breathe in classes. A classroom with poor ventilation creates a high chance for the spread of air borne diseases such as tuberculosis according to the Ministry of Public Health and Sanitation (Jepleting, 2013).

Jepleting (2013) explains that the purpose of ventilating classrooms and school buildings, at minimum, is to remove or otherwise dilute contaminants that can build up inside the classrooms. Such contaminants come from people breathing, from their skin, clothes, perfumes, shampoos, deodorants, from building materials and cleaning agents, pathogens and from a host of other agents, which in sufficient concentration, are harmful. According to Lewinski (2015) the tables and desks should be arranged

properly to allow easy movements, group work, play and management of group behaviour. The arrangements should enable children to have a clear view of each other. For a teacher to organize the classroom, he/she should pay attention to the physical sitting arrangement (how the tables, chairs and benches have been arranged). Further, Lewinski (2015) stated that it is important to provide adequate and appropriate furniture. It should be borne in mind that young children are active, curious and cannot sit still for long periods. They are energetic and their bodies are growing fast. Therefore, the furniture and equipment provided should be designed in such a way that they support their healthy development, for children who are healthy perform better in school.

Schools and classroom in particular need to be designed to the appropriate standards. Desirable designs include having friendly and agreeable entrance areas (doors and gates), supervised private places for learners that foster a sense of community and with particular attention to the colour used to paint them (McGregor, 2004). ECDE centres need to have adequate spaces that pupils want to pass through to ensure smooth movement with less or no blockades or distractions (Bunting, 2004). Research study by Higgins, Hall, Wall, Woolner and McCaughey (2005) found out that pupils achievement was poor dilapidated school buildings however, the research failed to show whether improvement in school infrastructure facilities resulted to improved pupils academic performance. this study determine the degree to which schools building improved affected provision of quality education in public ECDE centres in West Pokot County, Kenya since Higgins study was carried out in Newcastle, United Kingdom

Consideration of the spaces where teachers meet and collaborate was just as important as the design of the classroom. While there can often be a separation between the designer and user in school design, there was a growing movement towards involving users (pupils and teachers) during planning of teaching and learning spaces in classes, with benefits for pupils and teachers alike making meaning around what they want from education (McGregor, 2004). This act will spur provision of quality education. Chepkwesis (2014) indicated that there is a volume of research that suggests less attentive and less successful pupils are particularly affected by the classroom desks arrangement, with their on-task behaviour increasing very significantly when seated in rows instead of tables. Scholars argue that teachers require a good knowledge of their pupils to implement an effective seating arrangement. Seating arrangements can be territorial (space organized by individual desk ownership) or functional (space organized for a specific activity) (Higgins, et al, 2005). This research determine whether the desks arrangement influenced provision of quality education in public ECDE

centres in West Pokot County, Kenya to see if there is similarity with what Higgins et al (2005) established in UK.

Classroom arrangement and desks design and location may affect provision of quality education. Higgins et al, (2005) found out that there can often be an action zone where an increased involvement between teacher and pupils occurs across the front rows and down the middle rows of the classroom where as some favour a horseshoe formation to overcome the fact that often when clustering learners, group size and placement can be driven more by furniture and arrangement than pedagogy (Chepkwesis, 2014). It may be that a one size fits all models or solution is not possible. It seems that different arrangements are required for different teaching and learning contexts. What researchers do agree upon was that it was imperative for a school to have a clear vision in order to design facilities which can accommodate this (Stevenson, 2007; Higgin et al., 2005). Still on desks arrangement in class, Hannah (2013) noted that when pupils' first steps into a classroom room, they will make a judgment about the type of class they are going to be taking. They will look to see how desks are arranged. They will notice what is hanging on the walls. The way in which a teacher sets up their class allows them to communicate with their students non-verbally. By adding various learning centres or activity centres the learners would know that this is a classroom that likes to do hands-on experiments. The arrangement of desks also conveys that they would not just sit and take notes, but they would act out what ever subject they are learning. The wall art would demonstrate to the learners that the teacher cares about their work enough to show it off. Learners would also gain an understanding of the social expectations of the teacher in the classroom based on how the desks are organized. Each of these tools can be used in any classroom regardless of the content (Grubaugh & Houston, 1990; Hannah, 2013).

ECDE 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 (Sitati, Mwangi, Bota and Rapongo, 2016). RoK (2003) recommends that buildings and physical facilities for young children should meet the basic standards of space, comfort and safety. There are many studies that examine the effect of the physical conditions of teaching spaces (which includes seating, furnishings, spatial density, privacy, noise and acoustics, climate and thermal control, air quality, windowless classrooms, vandalism and play-yards, light and colour) on learners' engagement, attainment, attendance and wellbeing (Higgins, *et al.,* 2005; Earthman, 2004). Some interesting contentions about the physical aspects of learning spaces include: temperature, heating and air quality are the most important individual elements for learners achievement (Earthman, 2004).

Chronic noise exposure impairs cognitive functioning, with numbers of studies finding noise-related reading problems, deficiencies in pre-reading skills, and more general cognitive deficits (Higgins, *et al.,* 2005).

Schools and classrooms can be more than a place to inhabit: they can also acquire an emotional significance. One perspective is that educators play an important role in constructing classrooms and schools, and therefore learners' identities. An extension of this idea was that children's environments have an effect on their cognitive and behavioural development and on childhood vulnerability (Ellis, 2005). Looking at learning space is about more than the structures – it is about the social relationships within the space. Space can be conceptualized as being an interaction between physical and social spaces. McGregor claims that the space is made by the social aspects (McGregor, 2004). This attitude is increasing in popularity as we move again towards creating more open spaces to improve social interactions and pupil learning opportunities.

If it is during English lesson, then the teacher may have a corner of the classroom set up like a theatre where the pupils could act out scenes from various plays that they are reading. There could be an area of the classroom with comfortable chairs and a small library where they could pick a book to silently read if they have finished all of their work for the day. This could be viewed as warm and inviting for a learner who does not like to read because now they see that English lesson can involve moving around. The small library will also allow them to choose what they want to read, rather than them having to read what was assigned (Grubaugh & Houston, 1990 Hannah, 2013).

In a Social Studies classroom, the ECDE teachers could use the concept of creating a separate learning centre in various ways throughout the curriculum. If the pupils were learning about World War I the teacher could organize the desks into trenches so when the pupils walked in they would pick a side and learn how battles were fought with this new strategy. The desks could be set in a continuous line where each learner will have to work on only one problem of an assignment to show the structure of an assembly line (Grubaugh & Houston, 1990; Hannah, 2013). Science classrooms need to have set up areas to conduct various experiments. Math classrooms need to have an activity centre (corner) focused on real world applications of the content they are learning for that unit (Hannah, 2013). Music classrooms could have a corner where they can listen to audio clips of great musicians from the past. Every subject area can utilize the concept of a centre of learning that is separate from the main structure of the class (Grubaugh & Houston, 1990 Hannah, 2013). Another method that can be utilized by ECDE teachers is how they organize their desks and instructional

resources in class. A pupil will notice this rather quickly on how their teacher uses this tool can set the tone for the rest of the school year (Gaurdino & Fullerton, 2010). Many learners know that if they are disruptive they will get attention. Wanting attention does not have to be a bad thing (Hannah, 2013). However, a teacher can organize their classroom where pupils can interact with others and stay focused on the content at the same time. If the learner can meet their individual desires while staying engaged in the curriculum, then there would be likely less disruptive behaviour hence a pupil will learn. One way to do this is to organize desks into groups. This allows for pupils to do individual work if they are required, or they can work with their colleagues or peers on specific assignments given to them by their teachers. If learners are creating larger projects in class they can work as a whole table group to complete it, each with their own specific task (Gaurdino & Fullerton, 2010). This arrangement will ensure that they acquire related competencies to aid in their learning. The current study determined whether these kinds of arrangement were existing in West Pokot County public ECDE centres.

Another way to modify the classroom seating arrangement is to organize the desks in a circle around the classroom. This will work better with smaller class sizes, but can still be used occasionally in others. This strategy works well with promoting public speaking and classroom debate (Campbell, 2008). This arrangement engages learners because they all become one member of the same group. They are prone to listen more actively and make more eye contact with the person who is speaking (Grubaugh & Houston, 1990 in Hannah, 2013). It also allows the person speaking to take more ownership of their ideas (Cornelius & Rupert, 2004). In this model, the teacher has to make sure to create an environment where pupils feel invited to share their views without fear of judgment in class. In order to do this the teacher must make sure that the learners know the consequences of inappropriate behaviour. It is also a good teaching point on how to respect people who have different opinions than their own. To help pupils understand what is expected of them the teacher can clearly state the order in which the discussion will run. By letting the pupils know what is expected of them they will have clear guidelines to be held accountable to. The teacher can also vary the method of discussion to break routine for the pupils. One day they can take turns speaking clockwise. Another day they can call on people to speak next. There can even be days where the teacher draws names from a bowl at random until everyone has spoken (Hannah, 2013). The evidence above shows the significance of Indoor Classroom Environmental Setting towards improving provision of quality education in ECDE centres.

Teacher classroom organization may also play significant role in pupil's discipline. When a learner walks into a classroom and sees that there is a large mess on the teacher's desk and items scattered around the floor the pupil can get the idea that the teacher doesn't pay a lot of attention to detail. With this mind set, the pupil may begin to look at what other flaws the teacher might have. If a teacher does not show that they care about organization then a pupil will most likely develop that attitude as well (Grubaugh & Houston, 1990 in Hannah, 2013). A teacher can use this knowledge to their advantage, however, by structuring their classroom in an organized fashion. They can post the rules on the wall so that each pupil knows exactly what is expected of them and the consequences if they choose not follow them. They can keep resources in a single location that is easily accessible to the pupils. They can have specific files where they turn in work or find missing assignments. These all will promote organization among pupils because the learners will now have a model after which to structure things in their own lives. Also, it will show the learners that the teacher cares about detail and will most likely catch the pupil trying to get away with things that are against the rules (Grubaugh & Houston, 1990 in Hannah, 2013).

Another aspect of the classroom that is difficult to control but can play a large part in keeping learners engaged is the classroom temperature (hotness / coldness / ventilation). This can become a complicated aspect to modify in the classroom since many ECDE schools do not have standardised ventilation. Too cold or too warm of a classroom can make pupils sluggish or inattentive. Also, poor circulation of air can create dust or air pollution that can affect learners' allergies. A classroom with fresh, warm air can create an atmosphere conducive to learning (Burke & Burke-Samide, 2004). Pupils will look for anything to distract them from the lesson, regardless of how trivial it may seem. Removing problems created by things such as temperature, light, or sound removes potential distractions for students (Hannah, 2013). This study determined whether public ECDE classrooms classes were ventilated in West Pokot County. According to Worthington (2008), the second element is having an understanding of the elements of language acquisition and development that is indispensable when helping to nurture children's language development. This element includes the phonological skills, narrative skills, conversation skills, and the first language of the children and how these intertwine and facilitate during and for language development (Miske & Dowd, 2008). It is important to be able to use effectively teaching strategies that can help facilitate communication between children in the classroom (Worthington, 2008). Professionals have heavily recommended the teaching strategies described and often the strategies lack a strong research basis that

ties the use of the strategy to achievement or later academic skills and success (Grimo, 2008).

Creating a language rich classroom is an essential part of creating an overall environment that encourages and promotes learning (Gersten & Jimenez, 1998). De Atiles and Allexsaht-Snider (2002) suggested labelling objects and area around the classroom in the children's first languages and in the dominant language, usually English. Another recommendation for creating a language rich classroom is to have an assortment of print and language materials (in both the children's first languages and in English) available to the children, such as books, writing supplies, and books on tape or CD (Worthington, 2008). The language materials should provide engaging experiences for the children to use to experiment with the various modes of communication: listening, reading, writing and talking in English and in the first language (Worthington, 2008). Labelling areas and objects in the room is another way of incorporating written language in the environment (Kostelnic, Soderman & Whiren, 2007). A language rich environment is also created when children have opportunities to have books read aloud. When children are read to, they are learning new vocabulary and print awareness (Gersten & Jimenez, 1998). Research has indicated when an adult and one child read a children's story together, the child comprehends more of the story than when the child is part of a group listening to a book being read (Wasik & Bond, 2001). It is possible the increased outcomes for one-on-one reading are because the adult is able to tailor the reading pace to meet the child's ability, point out and explain what is happening in the pictures to help engage the child in story, and the adult is able to pause and explain unfamiliar words or to answer a question the child has about the story (Sattar, 2013). These researchers also found out that when an adult reads to a child, it leads to greater vocabulary retention, especially when the adult asks the child about the story using open-ended questions.

Incorporating rhymes, poetry, and chants are methods of encouraging children to experiment with language (Gersten & Jimenez, 1998). Using songs, poetry, rhymes, chants, and finger plays are recommended as developmentally appropriate practice (Kostelnik, Soderman, & Whiren, 2007). These activities support and enhance language and literacy acquisition in children (Kostelnic, Soderman & Whiren, 2007). In a research review, Restrepo and Gray (2007) state that the repetition often found in songs, rhymes, and finger plays facilitates children's awareness of the language structures being used. They note these activities also increase children's awareness of the components of meaning and sounds in the words being used. These skills are important as children begin to read as they sound out the letters in unfamiliar words (Kostelnic, Soderman & Whiren, 2007). However, they did not address how these activities can be used with

children from diverse linguistic backgrounds and how these activities affect ELs' English acquisition and development. Having a designated book area in the classroom is one method for providing children with opportunities to interact with books and printed language (Gersten & Jimenez, 1998). In this area, children are able to look at books on their own or have an adult read to them. Children learn new vocabulary and print awareness when an adult reads to them (Gersten & Jimenez, 1998). In a research review, Justice, Pence, and Wiggins (2008) discussed the important of multiple readings and exposure to the same books. They noted when children experience multiple reading sessions of the same book, they are more likely to acquire and retain expressive and receptive vocabulary. It was also noted multiple readings or exposures to the same books provides children with a sense of familiarity of the book content, which creates a sense of confidence in their pre-reading skills and reinforces their confidence in their pre-reading skills. During reading activities with an adult, the adult is able to facilitate the children's awareness of print.

According to Justice, Pence and Wiggins (2008), adults provide instruction about print when they read to children and reference the print on the page, for example tracing the words with their finger. Helping the children developing confidence in their pre-reading skills is important as the children begin to understand the concept that words and letters carry meaning. It is suggested a "quiet area" be provided for children to have a place for them to go to rest and engage in a quiet activity, such as sitting and watching, looking at a book, or completing puzzles (Gordon & Browne, 2004) to get away from a more physically active activity. Woolner and Hall (2010) reviewed the weight of evidence in relation to noise, considering what implications the results of empirical studies have for the design and use of learning spaces in schools. They found out that noise over a given level does appear to have a negative impact on learning. Secondly that beneath these levels noise may or may not be problematic, depending on the social, cultural and pedagogical expectations of the students and teachers. Thirdly they argue that when noise is deemed to be a difficulty, this finding cannot simply be translated into design prescriptions. The reasons for this indeterminacy include differing understandings of the routes through which noise produces learning deficits, as well as relationships between noise and other elements of the environment, particularly the impacts of physical solutions to noise problems.

Minchen (2007) studied the effects of a learner's location in the classroom versus their retention and application of newly learned material. The study's participants were learners taking Regents Chemistry in a suburban school located in Upstate New York. Through a teacher administered questionnaire, students answered three questions regarding the lesson that was just presented. Results showed that learners who sat in

the front of the classroom, defined as the first two seats in each row, consistently did better than those towards the back of the classroom. Various distractions such as windows, ventilators and other learners were also taken into consideration. Simmons, Carpenter, Crenshaw and Hinton (2015) study determined if a specific classroom seating arrangement contributed to learners being on or off-task while completing independent work within the general education setting of an inclusive second grade class in South East United States. Three classroom seating arrangements were compared in a second grade classroom. These seating arrangements were cluster seating, horseshoe seating, and row seating. There were specific targeted off-task behaviors that were observed: inappropriate talking, learners out of their seats without permission, learners not following directions, and learners not starting independent work promptly. Data was collected using three methods: observation/ anecdotal record, teacher behavior checklist, and a behavior tally sheet. The data revealed the number of pupils who displayed off-task behaviors as well as the specific amount of times, these behaviors happened during each seating arrangement. They found out that row seating had the fewest off-task behaviors for this particular second grade class. It was also evident that inappropriate talking was the most frequent occurring off-task behavior and not following directions was the least off-task behavior observed. For this particular classroom, row seating was the best classroom arrangement.

Wannarka and Ruhl (2010) determined which arrangements of desks best facilitated positive academic and behavioural outcomes for primary through secondary high school learners with a range of characteristics. Eight studies that investigated at least two of three common arrangements (like rows, groups or semi-circles) were considered. Results indicate that teachers should let the nature of the task dictate seating arrangements. Evidence supports the idea that students display higher levels of appropriate behavior during individual tasks when they are seated in rows, with disruptive students benefiting the most. The study by Wannarka and Ruhl collected secondary data while this study collected mainly primary data to determine the influence of seating arrangements on provision of quality education in ECDE. Assefa (2014) assessed the practices and challenges of Early Childhood Care and Education in Addis Ababa by looking at Arada Sub-City government kindergartens. The research used a descriptive survey method which combined both quantitative and qualitative approaches, however more emphasis to quantitative approach. Data for the research was collected 11 nursery schools through various means from 11 head teachers (1 not responded), 77 teachers (2 not responded), 44 parents/guardians and 2 ECDE education experts. Findings showed that sample kindergartens were not that much conducive for all children. They had narrow classes, they had great number of children in the classes

(overcrowded), there was low participation of parents and stakeholders. There was lack of training school head teachers, teachers, experts and parents and guardians were found to be great barriers to implement Early Childhood Care and Education in the country. Absences of experience sharing of kindergartens, limited support system of supervision and collaboration of stakeholders are the other barriers of the kindergartens. The study by Assefa (2014) was in Ethiopia while this study looked to see whether the environment of public ECDE centres in West Pokot County were similar with those in Ethiopia.

Waithanji, Ciera, Musyoka and Moses Oketch (2013) examined the contribution of classroom pupils' seating positions to learning gains. Data was gathered from a sample of 1907 standard six pupils who sat for the same seat twice over an interval of about 10 months. They were drawn from a random selection of 72 low and high performing primary schools. Results of a multi-level regression showed that seating in the front row in a classroom led to higher learning gains of between 5 percent and 27 percent compared to seating in other rows that are farther away from the chalkboard. The policy implication to education was that learner's seating position can be manipulated in a way that it optimizes learning gains for slow learners. The study by Waithanji et al, focused on seating arrangement on learners gains in primary schools while this study looked at the influence of seating arrangement and provision of quality education in public ECDE centres in West Pokot County.

3.3 Materials and Methods

The study was conducted in West Pokot County, Kenya. The research adopted a descriptive survey research design. The target population includes all pubic primary head teachers, ECDE teachers of all public pre-primary schools and DICECE officers in West Pokot County, Kenya. The study used probability and non-probability sampling methods in selecting the respondents for the study. In choosing the sample size, 10% of the head teachers were selected to participate in the study while 30% of ECDE teachers were selected to participate. The total sample size for the research is 246 which comprises of 37 head teachers, 205 teachers and 4 DICECE officers from the four sub-counties in the county. This is adequate and was a representative of the whole population.

Data collection was done using a questionnaire, interview and observation checklist. Field data for this research was analysed through use of two methods; quantitative and qualitative methods.

4. Research Results

4.1 Influence of Indoor Classroom Environment Setting on Provision of Quality Education in Public ECDE Centres

The objective of the research was to determine how indoor classroom environmental setting affected provision of quality education in public ECDE centres in West Pokot County. Indoor classroom environment setting has to be standardised and set in a way that teaching and learning is not disrupted. To answer the second research question, teachers were asked to indicate their perception on how they rated their indoor classroom environmental setting affected provision of quality education on statements made in five Likert scale (SD-Strongly Disagree, D-Disagree, U-Undecided, A-Agree and SA-Strongly Agree). The results of the analysis are presented in Table 4.1.

Table 1: Teacher Perceptions on the Influence of Indoor Classroom Environment Setting on Provision of Quality Education

Variable		SD	D	U	A	SA	Mean	SD
The classroom is well ventilated and this ensures that there is adequate supply of air thereby minimising sleeping amongst learners	*f*	26	51	30	72	26	3.1024	1.26965
	%	12.7	24.9	14.6	35.1	12.7		
There is enough space in the classroom for easy movement	*f*	25	82	47	34	17	2.6878	1.13763
	%	12.2	40.0	22.9	16.6	8.3		
The classroom is easily accessible by all learners (even disabled)	*f*	37	73	21	51	23	2.7561	1.31322
	%	18.0	35.6	10.2	24.9	11.2		
Our classrooms have nature corners for enhancing teaching and learning	*f*	17	25	38	99	26	3.4488	1.11740
	%	8.3	12.2	18.5	48.3	12.7		
Our classrooms have proper lighting to ensure good condition in class	*f*	46	83	26	29	21	2.4927	1.26654
	%	22.4	40.5	12.7	14.1	10.2		
Pupils can be able to write their work well because the desks and tables are not high	*f*	30	83	26	54	12	2.6829	1.18071
	%	14.6	40.5	12.7	26.3	5.9		
I regularly ensure that physical sitting arrangement in orderly manner to ensure interaction between learners and I	*f*	15	19	25	97	49	3.7122	1.14622
	%	7.3	9.3	12.2	47.3	23.9		
Mean perception on Indoor Classroom Environmental Setting							3.1282	1.20448

Key: SD-Strongly Disagree, D-Disagree, U-Undecided, A-Agree and SA-Strongly Agree

Result show from Table 1 shows that that only 72 (35.1%) of teachers agreed and that their classes were well ventilated to ensure that there was adequate supply of fresh air. The responses show that 37.6% of teachers disagreed and 47.8% agreed with the

statement which suggested respondents were undecided (M=3.1 and SD=1.26) as standard deviation scores are far away from the mean. This shows that only 47.8% of ECDE classrooms in west Pokot County are ventilated and this ensures that there is adequate supply of fresh air which minimises sleeping among learners due to the climatic conditions of the area associated with high temperature and low humidity. The results are somewhat different to what Olaleye and Omoyayo (2009) found in Nigeria where ventilation in 60% of schools was found to be average.

Secondly, 82 (40.0%) of teachers disagreed that their classes had enough space for easy movement. From the findings, it is evident that 52.2% of teachers agreed that classrooms were small and they remain undecided (M=2.68 and SD=1.13). Therefore, teachers find it difficult to move around and assess learners while teaching. The results coincide with UBS Optimum foundation (2013) who found very few cases where students had insufficient seating space in Nairobi pre-schools. Some head teachers supported the responses by teachers while others did not.

For instance, one head teacher (HT4) had this to say during interview on Question 2:

"The room is spacious, enough and adequate for learning. This influence learning positively."

Similarly, another head teacher (HT13) also shared the same response:

"The nature of ECDE classroom is modern with enough space for learners."

However, another head teacher (HT6) sided with teachers responses by indicating that:

The classrooms are available though they are not spacious because of the number of pupils who have been enrolled."

Another head teacher (HT17) also supported the less spacious classes by indicating that:

The class is less improved; it requires more resources to be modern."

The responses shows that majority of ECDE classes have limited space to accommodate and allow movement of learners and teachers in West Pokot County. To solve the problem, some head teachers said that there are plans through the support of county government to expand the facilities. Similar to the study findings, Jepleting (2013) established that majority of preschool classrooms were smaller than the recommended classroom size of 8m x 8m. Due to this, learning corners are unavailable in most of the schools in the zone.

However, findings are inconsistent with Olaleye and Omoyayo (2009) who found out that the learning environment of the pre-schools using the subscale scores is fairly good (62.5. %) in Nigerian pre-schools. From the above findings and discussions,

it can be seen that small classrooms size characterise provision of poor quality education in public ECDE centres in Kenya. The crowded classrooms also limit pupils' concentration and learning. When asked as to whether the classrooms were easily accessible by all learners irrespective of their disability status, 73 (35.6%) of teachers disagreed with the statement. The responses shows that the respondents were undecided on the statement (M=2.75 and SD=1.31). This implies that some classrooms are inaccessible by learners with disabilities against the government policy of ensuring inclusion in public primary schools. This point to poor workmanship during construction of classes by the school management. The study coincides with Ngigi et al, (2015) who established that schools lacked ramps for children with disabilities, as well as rails, lower door handles, or any environmental adaptation for special needs children.

The researcher also observed that in few classrooms that were permanent, few had ramps with most having staircases. The research is different from what Osborne (2013) found in New Zealand schools where access to resources (including technology): typically a learning common is surrounded by breakout spaces allowing a range of different activities, such as reading, group work, project space, wet areas, reflection, and presenting. There is often a mixture of wireless and wired technology offering access as and when students need it, within the flow of their learning. This shows that classroom accessibility has been improved in developing countries compared to Kenya.

When asked as to whether their classes had nature corners for enhancing teaching and learning of science, creative and mathematics activities, (48.3%) of teachers agreed with the statement. From the result, it can be deduced that majority 61.0% of schools have ensured that their classrooms have nature corners to facilitate learning (M=3.45 and SD=1.1). The results are in contrast with research done by Assefa (2014) that showed that most of respondents said that there was poor arrangement of nature corners in their classroom. Furthermore, 83 (40.5%) of teachers agreed there classrooms had proper lighting to enable conducive environment for learning. From the result, it is clear that 62.9% of public ECDE centres in West Pokot County have ensured that proper lighting is provided. The descriptive statistics also supports this view where the respondents appeared to agree (M=3.50 and SD=1.26).

Result also showed that 83 (40.3%) of teachers disagreed with the statement that pupils were able to write their work well because the desks and tables were not high. It is therefore evident that majority 55.1% of desks and tables in public ECDE centres are not comfortable for learners to write or sit on them well and this makes some to stand while writing while others are forced to bend more to enable them write during class teaching (M=2.68 and SD=1.18). The result also points to non-involvement of ECDE

teachers by school administration during the process of tendering and construction of these resources and this could explain poor curriculum delivery in schools. The result coincides with Mutuma (2015) who established that classroom furniture that is ill adapted to the physical size of children is uncomfortable and can cause postural discomfort and pain. Some centres have benches that are fixed too far from the table the children use. This strains the child's arms when writing. Typically, children bend over the writing table and this undesirable practice is due to combination of poor sitting conditions and furniture misfits. However, some head teachers disagreed with teachers' opinion in Interview Question No. 6 whereby Head teacher (HT9) indicated that:

"The teachers and schools have been ahead in improving the facilities to fit the learners, e.g. the new chairs are for the aged in ECDE classes."

When asked as to whether they regularly ensured that physical sitting arrangement was in order to ensure interaction between them and learners, 97 (47.3%) agreed that they ensured good sitting arrangement in their classrooms. The findings showed that majority of teachers agreed (M=3.71 and SD=1.14) with the statement. This implies that teachers ensure that physical sitting arrangement in classrooms is in order to ensure that interaction takes place with learners. The findings concurs with Waithanji et al (2013) who found out that teachers can change classroom seating positions in a way that optimizes learning achievement for every learner, since the seat position has the potential to improve achievement gains. This therefore shows that seating arrangement is an important factor in determining provision of quality education in ECDE.

In general to teachers' responses, 37.1% reported that their classroom learning environment was not good at all by disagreeing, 14.8% held moderate perceptions on classroom environment while 48.0% said that their indoor classroom environmental setting was conducive to support provision of quality education. They appeared to have mixed opinion (M=3.12 and SD=1.20). The result therefore shows that Indoor Classroom Environmental Setting is critical to provision of quality education. However, the challenges in classroom environment was evident by Chepkwesis (2015) study in Trans-Nzoia County that showed that majority of the ECD teachers identified that the ECD enrolment, the physical conditions of classrooms, the physical conditions of school affected the pre-school classroom performance. Ngode (2014) recommended that quality assurance and standards officers to assess if the learning environment is conducive for young learners. To answer the research question, a cross tabulation was conducted to determine whether there existed any association between teachers perception on classroom learning environment setting and provision of quality education. The results of the analysis are presented in Table 2.

Table 2: Indoor Learning Environment Setting and Quality Education Crosstabulation

			Quality Education			Total
			Low	Moderate	High	
Learning environment setting	Poor	Count	7	11	0	18
		% within learning environment setting	38.9%	61.1%	.0%	100.0%
	Moderate	Count	12	108	3	123
		% within learning environment setting	9.8%	87.8%	2.4%	100.0%
	Good	Count	7	40	17	64
		% within learning environment setting	10.9%	62.5%	26.6%	100.0%
Total		Count	26	159	20	205
		% within learning environment setting	12.7%	77.6%	9.8%	100.0%

The result (Table 2) shows that for those who considered their indoor classroom environmental setting to be poor, 11 (61.1%) rated quality education as moderate and 7 (38.9%) rated provision of quality education as poor. For those teachers who rated learning environment setting as average, 108 (87.8%) reported moderate provision of quality education. For those who rated learning environmental setting in classrooms as good, 40 (62.5%) said it was on average, 7 (10.9%) said provision was poor while 17 (26.6%) rated provision of quality education as high. From the above result, it can be deduced that as the classroom learning environment setting improves, provision of quality education increases and vice versa is true.

The second null hypothesis stated that:

H_{02} There is no significant relationship between indoor classroom environment setting and provision of quality education in public ECDE centres.

To test the hypothesis, chi square analysis was conducted at 0.01 significance level by cross tabulating categorical variables of indoor classroom setting; good, moderate and poor against provision of quality education. The results of analysis are given in Table 3.

Table 3: Chi Square Statistics on Indoor Classroom Setting and Provision of Quality Education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	41.930a	4	.001
Likelihood Ratio	37.333	4	.001
Linear-by-Linear Association	20.905	1	.001
N of Valid Cases	205		

Statistics shows that the computed value is x^2=41.930, df=4 and p=0.001 which is higher than the table (critical) value x^2=13.277, df=4 and p=0.01 leading to rejection of second null hypothesis and concluding that there exist significant relationship between indoor classroom setting and provision of quality education in public ECDE centres in West Pokot County, Kenya. This implies that schools around the four sub counties have improved their classroom setting which is an important factor of ensuring provision of quality education in ECDE.

The result therefore shows that there is need for improvement in classroom setting to allow and give opportunities for all learners to study with minimal or no interruptions. The study findings coincide with Chepkwesis (2015) who established that majority of the ECD teachers identified that the physical conditions of classrooms affected teachers' classroom performance. In addition, Waithanji et al (2013) established that managing classroom indoor environments has the potential to address learning differentials, different seating positions and arrangements should be tested for their efficiency in instructional delivery and effectiveness in improving learning outcomes among learners with different academic ability. From the result and discussion from previous research, it is evident that learning environment in classroom need to be conducive to ensure quality education is received by learners.

5. Conclusion

The physical environment in classroom was also found to be critical in ensuring positive learning environment takes place. Teachers have to pay attention to how physical classroom environment is as it is one of the ingredients for successful curriculum implementation. Research results revealed that majority of classes did not have adequate space for teacher movement while others were not well ventilated increasing incidences of pupils sleeping while in class.

A positive finding on the indoor classroom environmental setting was the availability of nature corners in majority of ECDE centres studied. The null hypothesis for the study was rejected ($p<0.01$) leading conclusion that there existed significant relationship between indoor classroom environment and provision of quality education in public ECDE centres in West Pokot County. All the respondents agreed that indoor classroom environmental setting needed adjustments and modifications to ensure that the goals and objectives of ECDE are realised.

6. Recommendations

To improve on classroom setting towards provision of quality education, the study suggest that there is need for ECDE teachers to work with head teachers to ensure that classrooms setting are safe, secure and conducive for teaching and learning process. On the policy front, there is need for county government to work with national government to establish appropriate standards for ideal Indoor Classroom Environmental Setting for ECDE learners in West Pokot County. This is because the classroom environment needs to encourage physical, emotional and intellectual development of learners which will promote good physical and mental growth.

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