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Influence of Instructional Methods on Child Friendly School Environment in ECDE Centers in Uasin-Gishu County, Kenya

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Abstract

Education is fundamental to improving children's social and economic outcomes worldwide. The study sought to establish the influence of instructional methods on a child-friendly school environment among ECDE centres in Uasin-Gishu County, Kenya. The study was informed by Constructivism instructional theory and Reggio Emilia's philosophy of educating young children. The study targeted 2151 Early Child Development Education (ECDE) teachers and heads in the 576 public ECDE centers in Uasin-Gishu County, Kenya, comprising 1728 ECDE teachers, 422 head teachers, and one County Quality Assurance and Standards officer. A sample size of 271 respondents was used for the study. A multistage sampling technique was used to select the respondents. A questionnaire was used to collect data. Descriptive and inferential statistical analyses were carried out using Pearson's correlation coefficient on the quantitative data. It was used to determine the relationship between the effect of Instructional methods on supporting a child-friendly school environment in public ECDE Centres in Uasin-Gishu County, Kenya. The findings further revealed that instructional style was positively and significantly associated with the school learning environment ($r=.431, n=271, p<0.01$), indicating that instruction style influences the school learning environment by 18.61%. Therefore, teachers should create an enabling learning environment that is inclusive to all learners and take care of social interactions among learners. The finding informs the best practices that could be employed to enhance the child-friendly learning environment.

Keywords: Influence, instructional methods, inclusive education, child-friendly, child-friendly learning environment

1. Introduction

The term 'school environment' refers to all of the factors that influence the teaching-learning process within the school. Classrooms, libraries, technical workshops, instructors' competency, teaching techniques, peers, and other elements might impact a school's teaching-learning process (Jayi, 2001). However, the extent to which students learn might be improved depending on what the educational environment provides for learners and teachers. It is thought that a well-designed school would help learners attain better social, political, and economic independence, as well as an efficient teaching-learning process and high academic achievement. According to Olds (2001), children's learning behavior is influenced by their early childhood learning settings. The significance of the teacher in the entire development of the child cannot be overstated since they provide an environment of emotional support and helpfulness and serve as facilitators of learning. According to Katz (2011), a child-friendly school environment is one in which the personnel is pleasant, and the children's health, safety, and needs are effectively fulfilled. As a result, it is a community-based environment that recognizes children's rights regardless of gender, religion and ethnic affiliation, physical and mental ability, or any other preconceptions.

However, a child-friendly school environment should provide a complete quality framework for school regulations, instructional facilities, and the community environment to promote children's right to health, protection, and development to their maximum potential (Alina, 2010). Furthermore, Alina (2010) described a child-friendly school environment as a child-seeking, child-centered, gender-sensitive, inclusive, and healthy approach to schooling and out-of-

school education worldwide. Learner friendly environment is the key to the promotion of access to quality education and high retention among pupils (KESSP, 2005). In an ideal Child-Friendly school environment, the school or teachers are expected to enhance learning through the provision of the five themes in a child-friendly school approach which are: managing an inclusive child-friendly school, a safe and protective school, an equity and equality promoting school, health and nutrition promoting school and enhancing school-community linkage and partnership (UNICEF, 2010).

Many teachers who are supposed to facilitate success in the children's learning at the early stage seem to have a negative attitude toward teaching preschool children. Some of the teachers teaching in ECDE centres in Uasin-Gishu County preschools have not been trained to teach Early Childhood Education.

However, Development agencies like UNESCO, UNICEF, county governments, and churches have come up with policies like the provision of a Child-friendly school environment and safety standards, among others (KESSP, 2016). Discomfort among learners in public ECD has been noticed in crowded sitting arrangements, over-utilized toilets, and overstretched facilities have led to low access, retention rates, and poor performance (KEPSHA, 2016). The report given by the sub-counties' education officers indicated issues relating to inadequate maintenance of the school compound, playfield classrooms, and other facilities that have made the learning environment very unfriendly in the county (KEPSHA, 2016). Complaints have been raised that there has been a decline in learners' performance from public ECDE centres compared to private centres. Despite government interventions, the performance has not been attractive over the years. According to the County Education Officer of Uasin-Gishu County, several seminars have been done for teachers and cluster meetings for parents. However, the performance remains poor, and retention rates are low. Hence, there was a need to investigate teachers' operational dynamics affecting the provision of a child-friendly school environment of ECDE centres in Uasin-Gishu County, Kenya.

1.1. Instructional Methods Used by Teacher

The Instructional strategies or methods used in implementing the curriculum are the arranged interactions of people and materials planned and used by teachers. They include the teachers' role, teaching styles, and instructional techniques (Siraj-Blatchford, 1998). Joyce and Weil (1986) identify four models of instructional methods: information processing, behavioral, social interaction, and personal. Within each model, several strategies can be used. Strategies determine the approach a teacher may take to achieve learning objectives. The common methods of instruction are the instructor-lead, lecturer, demonstrator, practical exercise, and self-study. With each of these methods, you will have someone doing something to teach you; whatever it is, you are there to learn. The exception is the independent self-study method. The instructional methods help specify teaching methods and patterns for these methods. Instructional strategies, or teaching methods, depend on a number of factors, such as the developmental level of students, goals, intent, and objectives of the teacher, content, and environment, including time, physical setting, and resources.

The Instructional strategies or methods used in implementing the curriculum are the arranged interactions of people and materials planned and used by teachers. They include the teachers' role, teaching styles, and instructional techniques (Siraj-Blatchford, 1998). The third aspect of pedagogy, which might be thought of as cognitive socialization, refers to the role that teachers in early childhood settings play, through their expectations, their teaching strategies, and their curricular emphases, in promoting the repertoire of cognitive and affective characteristics and skills that the young child needs to move down the path from natal culture to school culture to the culture of the larger society. Optimally, early literacy teaching strategies should enable teachers explicitly and systematically help children develop a conceptual knowledge base that underlies the meaning of words rather than only focusing on letters and sounds.

The National Association for the Education of Young Children (NAEYC), a leading national organization dedicated to improving the quality of education and care in early childhood in conjunction with the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) contend that successful early childhood learning occurs when both teachers and children are actively engaged (Neuman, Copple, et al., 2001). The challenge for teachers is to help children to think, explore, experiment, talk about concepts and practice new skills (Connors, 2016). This pedagogical approach requires far more than simply transmitting facts to the children and emphasizes opportunities that foster higher-order skills.

1.2. Constructivist Instructional Methods

The constructivist method of instruction is a method of instruction that allows learners to interact with their learning environment and participate in the construction of knowledge. The constructivist instructional methods require strategies that allow the learners to be part of the knowledge creation. Trowbridge et al., (2004) outlined characteristics of constructivist instruction as involving goal setting and clear strategies for achieving the set goals. Cognitive constructivism is defined as an approach that emphasizes the external character of knowledge (Abraham, 2003). Watson and Plymale (2011) maintain that, unlike social constructivism, cognitive constructivism accepts the view that one can arrive at the knowledge of reality, or truth, which exists outside of individuals and their experiences. Therefore, knowledge is objective, and acquiring knowledge involves (re)formation of external reality and transforming it into internal mental constructions (Peter E Doolittle, 2014).

The cognitive approach to constructivism was pioneered by Jean Piaget, who proposed that Cognitive constructivism integrates the constructivist behavior's personal approach with the application of logical reasoning of cognitive behavior. During this process, the person uses logical interpretation and reasoning to understand things and connects them to a different style of learning, which comes from a humanistic and behavioral dimension. Piaget had a particular interest in psychological development, and the influence age, background, and educational level have on the

process of learning. As Johnson (2017) has noted, understanding the developmental stages can be integrated into the constructivist theory of knowledge acquisition. Prawat and Floden (1994) point out that the cognitive constructivist approach sees the search for knowledge as a search that focuses on discovering the mechanisms of how the world actually functions, and correspondence of the knowledge with the real world is setting the true value of knowledge. Piaget's emphasis on developmental factors appears in two main parts. Firstly, it implements what is known as the 'ages and stages' approach to cognitive development in children, through which their age determines the extent of the child's ability to acquire cognitive skills.

A constructivist teacher should have clear conceptual goals for the learners to attain from the instruction process and how the goals can be attained. The goals should also reflect high-order thinking skills. A constructivist teacher's teaching and learning strategies should identify and use the learner's pre-instructional knowledge. The instructional methods should modify or change the learner's prior knowledge to reflect accepted ideas. This can be done by asking learners thought-provoking questions that change their conceptual framework (Meyer & Land, 2013). A constructivist teacher should provide opportunities for the learners to utilize and construct new ideas learned in new contexts. During class activities and group discussions, learners can be allowed to refer to textbooks and other learning resources.

The five pillars enumerated by Brooks and Brooks are herein mentioned and discussed briefly: The first pillar poses emerging problems relevant to the learners. If learning tasks given to learners are relevant to them, the learners find the transfer of learning easy, and a change in the earlier held ideas is also readily accepted. Relevance, in this case, refers to the value the learners attach to the learning material. Secondly, structuring learning around primary concepts. Lastly, a constructivist teacher should provide learners with opportunities to perform learning tasks within the learner's relevant and realistic environment. According to the constructivist approach, knowledge and beliefs must be constructed by the student himself to give meaning to the experiences one is exposed to within the learning process. Within this process, the role of social interaction is essential in ensuring the provision of life and providing meaning for that life.

Through the constructivist learning environment, the students are supported to discover, discuss and interpret knowledge by themselves. In this learning environment, possibilities abound for the student to invent theories, test these out and, by way of his own thought processes, enjoy the opportunity to make reflections on his findings (Jonassen, 1999). In creating and sustaining learning environments that truly support the students' learning, the role of the teacher assumes supreme importance. According to Brooks and Brooks (1999), teachers must keep in mind five basic principles while creating constructivist learning environments:

- Posing or setting a question that will awaken the interest of the students,
- Constructing learning around key concepts,
- Searching out and evaluating students' viewpoints,
- Adapting curriculum to address students' suppositions, and
- Evaluating students' learning in accordance with the context that the subject matter has been presented and received

Constructivist instructional methods have developed over a period of time. The concept of constructivist instructional methods itself is said to be rooted in classical antiquity (Hawkins, 2012). Many scholars agree that it can be traced back to Socrates's dialogues with his followers (Boghosian, 2006; Chrenka, 2001). Socrates's way of teaching was by asking his students directed questions which led the students to discover their own weaknesses in thinking. Constructivist educators still today use the Socratic dialogue as an essential tool in assessing their students' learning and planning new learning experiences. The Socratic dialogue formed the basis of what was later on called theories of childhood development and education propagated by the likes of Jean Piaget and John Dewey, what we now call Progressive Education that led to the evolution of constructivist instructional methods (Trawick-Smith, 2013).

2. Research Methodology

2.1. Research Design

The study used a hybrid of descriptive and explanatory research designs. According to Sekaran and Bougie (2009), a researcher should employ several designs to improve the study and get the best findings, as advocated by Saunders, Lewis, and Thornhill (2009). According to Saunders et al., explanatory studies aim to investigate a scenario or problem to determine whether causal links exist between the variables in the research (2011). The design was chosen because it minimizes biases through probability sampling while maximizing the reliability of the data collection method. It also allows the use of questionnaires and inferential statistics to establish the significance of the relationships between independent and dependent variables, as Hair et al. (2005) proposed. According to Creswell (2009), the research design is a strategy and method for a study that extends decisions from general expectations to particular approaches to data collection and analysis. The descriptive research design was used in the study, which entails obtaining data that describes occurrences (Glass & Hopkins, 1984). Descriptive techniques are frequently used to collect data that may be utilized to evaluate current practices and make decisions. This technique was suitable because it thoroughly accounts for the teacher operation dynamics affecting a child-friendly school environment that may be adapted to different regions of Kenya.

2.2. Population and Sample

According to Copper and Schindler (2014), a population is the complete collection of elements from which the researcher intends to draw conclusions. According to Saunders et al. (2014), a target population is a comprehensive group of people or things with homogenous features that the researcher is investigating. The study's target population was 2151

people, with one County Quality Assurance and Standards Officer (CEO, 2018). The intended audience included 1728 ECDE teachers, 422 school heads, and one County Quality Assurance and Standards Officer.

The larger the sample size, the lower the likely error in generalizing the population (Saunders, Lewis, and Thornhill, 2003; Creswell, 2009). The study used Yamane (1967:886) and modified by Saunders *et al.* (2003) formula to calculate sample sizes.

$$n = \frac{N}{1 + N(\epsilon)^2}$$

Where;

n = the sample size,

N = the population size,

ϵ = the acceptance sampling error

= 337

The total sample size for the study was 337. QASO respondent was included purposively to make a sample size of 338. A total of 337 ECDE teachers were selected using a simple random sampling technique. This procedure ensured that all the population members were equally likely to be included in the sample. The purposive sampling technique was used to select head-teachers and QASO. This is because head-teachers of the selected schools were automatically included in the study.

2.3. Variable and Measurement

The variables involved in this study consisted of the various instructional strategies utilized by teachers in public Early Childhood Education Centers in Uasin-Gishu County. In addition, the frequency of the level of use of the instructional strategies (Integrated Technology (IT), Cooperative Learning Structures, Differentiated Instruction, Play Activities, Goal Setting, Cross-curriculum teaching, Class wide peer tutorial, and Assessment for Learning.

2.4. Data Collection Method

The study adopted a mixed-method approach to collect data from the respondents. In this case, data collection was done using a combination of questionnaires, interviews, and checklists. The data collection process was carried out from January to April 2017. The questionnaire answers were in the form of a Likert scale. The data collected were coded and entered in SPSS V20 for data analysis. Descriptive statistics were done to identify the characteristics of the demographic data of respondents. Face validity was assessed by getting friends and students in the department of early childhood education to test-run the instrument to see if the questions were relevant, clear, and unambiguous, in line with the recommendation of Rubin and Rubin (2011). Further content validity was done with the help of a panel of experts (lecturers in the department of early childhood education) to evaluate the content validity of the questionnaire, and the questionnaires conformed to the theoretical expectations which have been indicated in the theoretical framework.

3. Results and Discussion

The objective was to establish instructional strategies used in ECDE in Uasin-Gishu County, Kenya. Table 1 below summarizes the study finding on the response rate of the study. The study finding revealed that out of 338 questionnaires distributed to the respondents, only 271 questionnaires were filled and completed accurately and were used for analysis with a response rate of approximately 84.95%. The response rate was, therefore, accepted as adequately sufficient for the intended purpose (Oso & Onen, 2005).

	Count	Percent
Returned	271	80.18%
Non Returned	067	19.82%
Total	338	100%

Table 1: Study Response Rate
Source: Survey Data (2018)

3.1. Instructional Strategies Used by ECDE Teachers in Uasin-Gishu County

The response variable of the study was assessment strategies used in ECDE in Uasin-Gishu County. The result is presented in table 2 below. The result indicates that most ECDE teachers incorporated play activities into their instruction (n=105, 30.8%). Considering that through this type of self-exploratory play, objects and materials become real-world manipulative where they can develop their own sense of the world and their learning styles. This agrees with Drifte (2002) and Macintyre (2001) that play is repetitive and stereotypical. The practitioner needs to find ways of stimulating new interests and ideas. This was followed by the cooperative learning structures assessment strategy, which was secondly highly preferred by ECDE teachers in the assessment (n=70, 20.5%). The result suggests that for ECDE teachers to attain high performance, they prefer to use cooperative learning structures in their classrooms. This agrees with Trawick-Smith (2013) that cooperative learning sparks engagement in classrooms by encouraging interaction among the students.

	Frequency	Cumulative Percent
Integrated Technology (IT)	65(19.1)	19.1
Cooperative Learning Structures	70(20.5)	39.6
Differentiated Instruction	39(11.4)	51.0
Play Activities	105(30.8)	81.8
Goal Setting	27(7.9)	89.7
Cross-curriculum teaching	24(7.0)	96.8
Class-wide peer tutorial	5(1.5)	98.2
Assessment for Learning	6(1.8)	100.0
N=341, All frequency percentages are reported in parentheses.		

Table 2: Instructional Strategies Used by ECDE Teachers in Uasin-Gishu County
Source: Research Data, (2018)

Further, the study found that at least (n=65, 19.1%) of the ECDE teachers were using integrated technology strategy for learning. The integrated technology strategy allows the teacher to connect with these kids. Teachers must learn to speak their language and become conversant with the technology that comes so naturally to the young, which leads to the effectiveness of teachers. Assessment and instruction are inseparable, hence tapping into students' interests and strengthening their technical skills, all while providing all-around learning opportunities. The findings were in line with those of Keengwe and Onchwari (2009), Cox (2015), and Keengwe (2007). However, if they are to succeed with it, they need a deep understanding of the tools available and meaningful reflection about how to use them to enhance learning.

However, the Differentiated Instruction assessment strategy was also preferred by some ECDE teachers (n=39, 11.4%) of the ECDE teachers utilized differentiated instruction in their classrooms. This indicated that the teachers could tailor learning experiences to differentiate between students' individual needs in the classroom. This agrees with Heacox (2012) that teachers can also differentiate by matching assignments to readiness levels and offering appropriate intervention or extension activities as required. Therefore allowing children to select activities based on areas of interest is another great way to differentiate. Offering choices is an excellent motivator for kids. In addition, it is evident from the result that ECDE teachers employed goal setting as their instruction strategy (n=27, 7.9%). This is always attributed to teachers involving children in the goal-setting process as an excellent way to encourage them to take ownership of their learning. This agrees with Henniger (2012) that teachers can further facilitate goal setting through the use of organizers, anchor charts, and similar aids. Therefore, the teachers facilitate goal setting through the use of organizers, anchor charts, and similar aids.

Finally, the result showed the extent to which ECDE teachers used cross-curriculum teaching as their instruction strategy (n=24, 7%). Thus, cross-curriculum teaching integrates content and skills from multiple content areas into one cohesive learning experience. Naturally, this approach asks more from the teacher. Hence the low level of utilization by the ECDE teachers used cross-curriculum teaching as their instruction strategy. The cross-curriculum teaching allows multiple subjects simultaneously and can help students go much deeper in learning concepts and skills. This agrees with Kelly (2013) that Cross-curricular instructional strategy can easily blend math, science, or social studies content with reading or writing. However, it is more challenging to combine all the subjects at once. Therefore, the teachers do not simply tell students what they should know; instead, they engage children in exploring and uncovering the information in a more meaningful way.

In a nutshell, the result in table 2 showed the extent to which ECDE teachers used class-wide peer tutoring as their instruction strategy (n=5, 7%). This signified that the respondents poorly agreed that they were using class-wide peer tutoring as their instruction strategy. The class as a whole is divided into pairs or small groups no larger than five. The strategy will enable children to work together to learn a specific set of information. The tutoring happens during regular class time and is led by the students. The groups should include students with different ability levels. The teachers are in charge of what information is being reviewed in the groups. This agrees with Maheady and Gard (2010) that children are taught by peers who are trained to present a weekly set of information where they can provide immediate feedback for correct and incorrect responses.

4. Conclusions and Recommendations

4.1. Conclusions

ECD teachers used integrated technology strategy, cooperative learning structures in their classrooms, differentiated instruction in their classrooms, and incorporated play activities in their instruction. ECD teachers employed goal setting, cross-curriculum teaching, and class-wide peer tutoring and assessment instruction as their instruction strategy. Using developmentally appropriate practices reduces learning gaps, increases achievement for all children, and allows students to share and engage in the learning process. In addition to instilling in students the flexibility to readily adapt to changing technologies, teachers must foster learning environments that encourage critical thinking, creativity, problem-solving, communication, collaboration, global awareness, and social responsibility. For these reasons, instructional strategies (integrated technology, cooperative learning structures, differentiated instruction, play activities, goal setting, cross-curriculum teaching, class-wide peer tutorial, and assessment for learning) play a critical role in facilitating the learning process.

4.2. Recommendations

From the study findings, the following are the recommendations:

- The study finding established that continuous training and constant evaluation of ECDE teachers with a special focus on instructional strategies will ensure an effective child-friendly learning environment.
- The County education office should step up its oversight of early childhood education. This will ensure that the students are enlightened through exposure to the right instructional strategies.
- There was disharmony between knowledge of and use of instructional strategies since most of the teachers reported being aware of classroom instructional strategies. However, only a fraction of them utilized such strategies in their teaching process. The preschool administrators and regulatory agencies scrutinized the instructional process to ensure that all preschoolers are exposed to various instructional strategies to accommodate the learning differences among children.

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