



# Establishing Instructional Strategies Used By Teachers in Public Early Childhood Education Centers in Uasin-Gishu County, Kenya

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**Abstract:** *Teaching strategies used in implementing the curriculum are the arranged interactions of people and materials planned and used by teachers. They include the teacher's role, teaching styles, and instructional techniques. However in practice, most programs combine elements of both direct instruction and free play. The purpose of the study was to establish the instructional strategies used by teachers in public early childhood education centers in Kenya. The study targeted 3105 Early Child Development Education (ECDE) teachers and heads in the 775 public ECDE centers in Uasin-Gishu County, Kenya taking 341 respondents as a sample. The paper adopted survey and descriptive design utilizing quantitative research methods. A self-administered questionnaire was administered to collect information from the respondent. The study found that the ECDE teachers were using integrated technology strategy, cooperative learning structures in their classrooms, differentiated instruction in their classroom 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 instructional strategies. County education office should step up their oversight on early childhood education.*

**Keywords:** *Assessment, Instructional strategies, Public early childhood education centers, Early Child Development Education*

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## 1. Introduction

Early childhood development education (ECDE) refers to a comprehensive approach to policies and programmes for children from birth to eight years of age with the active participation of their parents and caregivers (Smith, 2000). Early Childhood serves the critical role of preparing young children for subsequent levels of Education. The need for a holistic development of children is appreciated all over the world. A child is endowed with some powers that enable him to construct and develop his personality. Globally, education is a fundamental human right (United Nations Convention for Rights of Children (UNCRC, 2000). Unprecedented attention has been focused on literacy among children (Early Childhood Technical Assistance Center, 2012).

Jomtien World Conference on Education for all (EFA) of 1990 and Dakar Conferences (2000) under scored the importance of instructional resources in ECE for the purposes of improving children's learning. In the second half of the twentieth century, the early education system in the United States grew substantially. This trend allowed the majority of American children to have access to some form of early childhood education (Roopnarine and Johnson, 2013). Head Start programs are funded by the federal Department of Health and Human Services (Roopnarine and Johnson, 2013). Teaching is acknowledged as a "complex activity that requires a myriad of knowledge, skills and capabilities" (Loughran, 2013).

However in Europe, pre-schools were created to provide humanitarian services related to health and welfare to

children from poor families and those affected by war and slum conditions (Jay, 2012). However, though created for the poor, the middle class hijacked pre-school education by taking their children to these pre-schools in most countries except in France and Belgium. As a result the provision to the poor diminished, thus affecting access to ECE negatively. This change of focus also affected the curriculum with a shift from concern for welfare to that of health, education and creative expression based on the Froebel an idea of play (Austin, 2010). In addition, Play activities have been attested to involve children's total self, encapsulating their mental, physical, social and emotional status (Samuelsson and Carlsson, 2008). Play has also been shown to instigate social, cognitive, psychomotor and emotional development in any child (Hughes, 2009, Vygotsky, 2004). Additionally, researchers have found a strong link between play and learning for young children, especially in the areas of problem solving, language acquisition, literacy, numeracy and social, physical, and emotional skills (Hirsh-Pasek and Golinkoff, 2003, Welsh, Nix *et al.*, 2010). The challenge thus lies in the integration of the various play activities and play resources to achieve a holistic development of the children encompassing all three learning domain; cognitive, affective and psychomotor.

The Government of Kenya recognizes that early childhood development and education interventions are significant to the social and economic development of the country as they provide children with a fairer and better start in life. The Kenya government has come up with the Session Paper No. 1 of the Ministry of Education (2005) which acknowledges the attainment of EFA by 2015 as a major goal commitment of the National Following promulgation of the constitution in 2010, ECDE in Kenya was devolved to the County level where service delivery is managed and funded in particular in ECD and TVET (Cheserek and Mugalavai, 2012). The Kenyan government in an endeavor to embrace the NAEYC and NAECS guidelines formulated an assessment tool called Kenya School Readiness Assessment Tool (KSRAT) (Mochama, 2015). Through the newly established tool, ECDE children would be gauged using their chronological age and development. Regrettably, many ECDE centers in Kenya are still focused on assessment of learning summative rather than assessment for learning. A study carried out by Offenheiser, Holcombe (2008) revealed that inadequate teaching and learning resources, lack of properly ventilated classrooms, furniture suitable for children, kitchen, safe clean water, playground, toilets and play material have a negative effect on the implementation of ECDE programmes. Similar views have been posed by a study carried out by International Association for the Education of Young Children, (2011). This implies that teachers do not have adequate teaching and learning resources to enable them to implement ECDE curriculum effectively. The management of ECD in the county level is not currently well-spelt out. Much still needs to be done to further improve quality in service delivery and the rapid scaling-up of Kenya's ECD programme especially in the current devolved system. It is on the basis of the

prevailing circumstances that the study endeavors to investigate the instructional strategies used in early childhood and education centers in Uasin-Gishu County, Kenya.

## **2. Literature Review**

### **2.1 Instructional Strategies used in Early Childhood Education**

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 teacher 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, 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. 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. 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.

#### **2.1.1 Play as a Teaching Strategy**

The propensity to play is inherent in children (Franklin, 1999) and has been a focus for most of the major theorists and practitioners in education and developmental psychology. The interest in play is shared by ethnologists who have recognized the role of play in the development of animal species that have long childhoods, complex social organizations, and high-level skill requirements. Piaget and Vygotsky, both of whom have strongly influenced the field of early education, explicitly link symbolic play with language and literacy (Pellegrini *et al.*, 1991) and with developing skill in representation and transformation (Schwartzman, 1978). Howes and Smith (1995) found play and positive social interactions with teachers predicted more complex cognitive activities in child

care centers. When adults, either mothers or teachers, play with children, the children manifest more complex combinations of pretend and are able to demonstrate distancing and decontextualization more readily (O'Reilly and Bornstein, 1993; Howes and Matheson, 1992). However, Kontos (1999) reported that the Head Start teachers she studied, although actively engaged in enhancing and managing children's play—particularly around play with objects—did not in that context provide much rich and stimulating conversation. Constructing narratives makes cognitive demands for recalling and sequencing information, linking references to prior utterances rather than to tangible objects, and so disembedding language from the here and now (Blank, 1982). Umiker-Sebeok (1979) recorded in three classrooms the intra-conversational narratives of 62 3-, 4-, and 5-year-old children during preschool free play. Children adapt their speech style to the listeners they are addressing and the roles they are playing. Play fosters the use of symbols and symbolic representations (Piaget, 1962; Sigel, 1993).

In addition the choice and self-directed play are highly valued in preschool programs, teachers are often directly involved and encouraged to intervene more directly in children's play by providing field trips and relevant props, for example, grocery stores, libraries, and by becoming involved in the play themselves by suggesting new activities, vocabulary, and rules (Dyson, 1993; Morrow, 1990; Neuman and Roskos, 1993). Therefore during play children develop exploratory as well as explanatory drives: they actively look for patterns, test hypotheses and seek explanations, leading to increased complexity in thinking, learning and understanding (Gopnik *et al.*, 1999). These cognitive processes are socially and culturally situated and, through the subject disciplines, can become increasingly refined. However the exploration and discovery are the building blocks of science: looking for patterns and relationships is fundamental to mathematics; imagination and empathy can lead to developing an informed historical imagination; technology and the creative arts involve planning skills as well as imagination, flexibility and spontaneity. Children can be encouraged to develop playful orientations to learning (playing with ideas, rules, relationships, materials) within and beyond the subject disciplines. There are three levels that can be used to understand the relationships between play, learning and development. Play supports children's discipline-based learning, adding depth and detail to intended, possible and actual learning outcomes. Processes such as exploration, practice, repetition, mastery and revision are important in constructing, extending and connecting cognitive structures. Play activities enable children to impose some structure or organization on a task, make sense of their experiences and engage in ongoing rehearsal of these cognitive processes.

## 2.1.2 Using Computers to Support Curriculum and Pedagogy

Today's children are born in the age of the Information and Communications Technology (ICT) and thus, 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. According to Keengwe and Onchwari (2009), integrating technology means tapping into students' interests and strengthening their technical skills, all while providing all-round learning opportunities. Integrating technology is the different ways that technology tools can be used to support learners as they construct their own knowledge through completion of creative activities that enhance meaningful learning (Henniger, 2012). The integration of educational and technology into ECE classroom instruction to enhance children's learning is of increasing interest to stakeholders such as policymakers, administrators, educators, students, and parents (Keengwe, 2007). Over the past decade, educators have been under pressure to reform ECE schooling through technology. About 90% of all children today especially in developed countries have used a computer (DeBell, 2005). However, research has shown that less than half of the public ECE school teachers who had computers or the Internet available school used them for classroom instruction (Judson, 2006). This implies that if teachers in ECE centers are to succeed with ICT integration, they need a deep understanding of available ICT tools, as well as meaningful reflection about how to use them to enhance learning. In addition, the increased connectivity that accompanies this technology makes it vital that teachers understand and stress the importance of internet safety. There is evidence to substantiate the positive effects of technology use on cognitive and social learning and development of children (Haugland, 2000, Henniger, 2012, Maynard, 2010).

Additionally, children shared leadership roles on the computer, and initiated interactions more frequently. In face of these values, today's ECE classroom teachers must be prepared to provide technology-supported learning opportunities for their students ...being prepared to use technology and knowing how that technology can support student learning must be integral skills in every teacher's professional repertoire. Computers help even young children think about thinking, as early proponents suggested (Papert, 1980). In one study, children who used computers scored higher on measures of meta cognition (Fletcher-Flinn and Suddendorf, 1996). They were more able to keep in mind a number of different mental states simultaneously and had more sophisticated theories of mind than those who did not use computers. In summary, across several subject matter areas, computers can positively affect how children learn and think, as well as their meta cognitive skills.

### 2.1.3 Class Wide Peer Tutoring (CWPT)

Class Wide Peer Tutoring (CWPT) is an instructional strategy designed to effectively teach specific information to young children with a variety of skill levels. It was first developed at the Juniper Gardens Children's Project (JGCP) in Kansas City, by collaborations of researchers and teachers who were seeking to find a successful instructional method for integrating children with special needs into general education settings. In CWPT, children work together to learn a specific set of information (Mitchell, 2014). Class Wide Peer Tutoring uses a combination of instructional components that include partner pairing, systematic content coverage, immediate error correction, frequent testing, team competition and point earning (Ali, Anwer, *et al.*, 2015). Every child in the classroom is involved in the learning process with CWPT, which allows them to practice basic skills in a systematic and fun way (Kamps, Greenwood, *et al.*, 2008). CWPT is conducted in a way that encourages positive student interaction by using partner pairing and peer tutoring. In CWPT, 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. Daily lessons allow each partner to take the role of both the tutor and the tutee (Maheady and Gard, 2010). CWPT uses immediate-response feedback, error correction, and a specific tutoring technique that benefits both the tutor and tutee.

When structured correctly, CWPT allows teachers to actively engage all students in the classroom, while simultaneously monitoring process through daily and/or weekly assessments (Greenwood, Arreaga-Mayer, *et al.*, 2001). CWPT has been proven effective with students from ECE to high school levels, and has been used in both general and special education classroom settings. CWPT has also been used to teach health and safety information to children and also in improving academic, linguistic, and social competence of learners (Maheady and Gard, 2010). Studies on the effectiveness of CWPT have demonstrated an increase in reading skills, social skills, spelling and vocabulary skills on students in ECE centers in developed countries (Maheady, Mallette, *et al.*, 2006). Peers are important to learning that involves such activities as projects, block building, cooperative learning, and any activity that requires the joint involvement of children. Children's performance on a number of cognitive tasks has been found to improve as a result of social interaction with more advanced peers (Murray, 1982; Perret-Clermont *et al.*, 1991; Roazzi and Bryant, 1998).

According to Roazzi and Bryant (1998) children's performance on a simple, inferential task (about numbers) and found that children who had interacted with more competent peers improved in task performance when post tested 3 days after the interaction and then again 3 weeks later. They also found that children who interacted with peers at their same level of competence did not improve in performance. Four major components comprise CWPT.

The first involves teacher determined academic material for tutoring which includes verbal and written practice of skills (e.g., reading aloud, writing, spelling words, reciting math facts, etc.). The second component consists of all students in a classroom working in pairs. The third component incorporates immediate and corrective feedback provided by the tutoring student, when the student tutee makes an error. The fourth component involves individual and team reinforcement. Individual reinforcement occurs when the tutee earns points and praise for correct responses. Group reinforcement occurs when the team receiving the highest point total is verbally recognized by the teacher and is applauded by their classmates. CWPT procedures allow all students in the classroom to work together in tutor/tutee pairs. At the beginning of each week all the students in the class are paired for tutoring as tutor/tutee dyads or partners.

### 2.1.4 Cooperative Learning Structures

Cooperative Learning, sometimes called small-group learning, is an instructional strategy in which small groups of students work together on a common task. The task can be as simple as solving a multi-step math problem together, or as complex as developing a design for a new kind of school. Teacher-centered instruction has had its day. Effective teachers are increasingly using a student-centered approach. Trawick-Smith (2013) explains that cooperative learning sparks engagement in classrooms by encouraging interaction among the students themselves. The teacher, rather than calling on one student at a time, allows children to discuss class materials with buddies or in groups, thus maximizing the level of participation. The students work just as hard as the teachers. No longer has a one-man show, the teacher's role becomes that of a facilitator instead. This, in turn, leads to higher achievement, while promoting both team and class building. Among the many cooperative learning instructional approaches, only two are recommended for early childhood education. Kagan (1989) developed over 200 practical, easy-to-implement Assessment strategies, or "structures," that turn classrooms into lively scenes of both movement and stimulating discussion (Kagan, 1989).

Students can work together by following the steps to the structure, using material or content selected by the students themselves or by the teacher. The structures have various aims, such as: building team spirit and positive relationships among students; information sharing; critical thinking; communication skills; and mastery (learning/remembering) of specified material. Many of the structures can fulfill a number of aims simultaneously, depending on how the teacher uses them. Structures can be mixed and matched, and adapted to the particular student group. Some of these strategies include; timed pair share, folded value line, corners, team statements; blackboard share, draw a gambit, paraphrase passport; rally robin and many other structures can be found in Kagan and Kagan (1994) and Sharan (1994). Laura Candler also developed Cooperative Learning Resources featuring a variety of activity sheets and black line masters for teachers, useful

for accountability during cooperative learning. Some of these strategies include; team interview, mix-freeze-pair, think-pair-share, showdown, line ups, teammates consult, jigsaw and mix-n-match (Candler and Kagan, 1995). Cooperative learning is a technique that allows students to learn from each other and gain important interpersonal skills. Cooperative learning is an organized and structured way to use small groups to enhance student learning and interdependence. Students are given a task, better known as an assignment, and they work together to accomplish this task. Each individual has responsibilities and is held accountable for aiding in the completion of the assignment; therefore, success is dependent on the work of everyone in the group. In addition to learning from each other, students also learn how to work as part of a team and have others depend on them.

### **2.1.5 Differentiated Instruction (DI)**

Differentiated instruction is an approach that enables instructors to plan strategically to meet the needs of every learner. It is rooted in the belief that there is variability among any group of learners and that instructors should adjust instruction accordingly (Tomlinson, 1999, 2001, 2003). The approach encompasses the planning and delivery of instruction, classroom management techniques, and expectations of learners' performance that take into consideration the diversity and varied levels of readiness, interests, and learning profiles of the learners. Differentiation is a way of teaching; it's not a program or package of worksheets. It asks teachers to know their students well so they can provide each one with experiences and tasks that will improve learning.

As Carol Ann Tomlinson has said, differentiation means giving students multiple options for taking in information (1999). Differentiating instruction means that you observe and understand the differences and similarities among students and use this information to plan instruction. Differentiated instruction is a philosophy of teaching and learning that recognizes and responds to student differences in readiness, interests, and learner profiles (Gettinger and Stoiber, 2012). Teachers who practice differentiated instruction plan, teach, and arrange the classroom environment to accommodate each child's unique needs and interests. Teachers who successfully differentiate instruction are sensitive to the developmental differences among children (Tomlinson, 2013); they regularly monitor student progress in order to modify instruction and meet each student's needs. In this type of program, instruction is based on established learning goals, child assessments, and observations.

In addition to using assessment instruments, teachers should assess students informally through observations and monitoring of day-to-day teaching and individual activities of the classroom (Heacox, 2012). Teachers who assess their students regularly are readily able to alter instruction and vary grouping patterns to meet children's changing needs. Differentiation is a student-centered instructional approach where teachers study and assess their students' learning needs and adapt instruction accordingly. Individualized instruction

means meeting the needs of individual learners as they move along their learning journey. Through differentiation, teachers are able to attend to individual students' differences in readiness, interest, and their overall learning profile, which results in the ability to connect more effectively with each student. Differentiated instruction is an approach that enables instructors to plan strategically to meet the needs of every learner.

### **2.1.6 Goal Setting**

Involving children in the goal-setting process is an excellent way to encourage them to take ownership of their learning (Rodd, 2012). In the early stages, goal setting needs to be done in a very clear and simplistic way – for example, frequent two-way conversations with children about their progress in specific areas. Teachers can further facilitate goal setting through the use of organizers, anchor charts and similar aids (Henniger, 2012). Free Printable Behavior Charts provides models of personal charts for early learners. Teaching and Tapas shares a class's goal charts geared specifically towards reading and writing. For instance, K-5 Math Teaching Resources shows a selection of goal charts for math instruction (Van de Walle, Karp, *et al.*, 2007). In general, helping children reach their goals calls for teachers to provide specific, frequent feedback as well as ample time for self-reflection.

### **2.1.7 Cross-Curriculum Teaching**

The world beyond the classroom is cross-curricular. Cross-curricular teaching and learning has a long history. The educational luminaries of the enlightenment, like Comenius, Rousseau, Froebel, Pestalozzi, each in their way championed cross-curricular approaches. These ideas were developed in the late nineteenth and twentieth century's by progressives like Steiner, Dewey, Montessori and Isaacs. Like Hadow (1931), Plowden (1967) and the Education Reform Act of 1988 before them, the latest primary education reports recognize that the combined skills and disciplines of a number of subjects are used in solving real-life problems. Today many teachers continue to see cross-curricular approaches as motivating, enjoyable and capable of building relevance and meaning into a curriculum sometimes seen as narrowed (NFER 2011; Robinson and Aronica 2010; Wrigley *et al.* 2012). The Links between curriculum subjects have also been closely associated with engendering creative thinking (Ofsted 2010; Roberts 2006; Thomas Tallis School 2013). Influential psychologists Csikszentmihalyi (1997) and Sternberg (2003) established such links, arguing that creative ideas frequently stem from interactions between subjects or cultures. Many of the most meaningful experiences for children happen outside the classroom. Casual, unplanned, social and multi-sensory modes of learning are often as influential as any brilliantly planned and well-taught lesson. Educationalists have begun to recognize the mass of connections children make to life beyond curriculum and classroom (Austin 2007, Barnes

2015; Fumoto *et al.* 2012; Scoffham 2013; Wrigley *et al.*, 2012; Wyse and Dowson 2009).

Authentic learning experiences involve adult and child learners together. Full teacher participation in the learning process does more than motivate children. Through the mirror neurons the quizzical looks on teachers' faces provoke deeper enquiry in children as they mirror their teachers' curiosity. The process of learning alongside children also generates high degrees of sustained job satisfaction and increased awareness of personal creativity (Barnes 2013a; Barnes and Shirley 2007; Cremin *et al.* 2009). Effective pedagogy demands teachers who see themselves as flourishing people. Successful cross-curricular activities need enthusiasm and commitment on the part of the teacher. Teachers might start by considering how they may become enthusiastic learners in their own right. They may share staff development that frequently exposes them to real, relevant, positive and life-changing experiences themselves. Staff who share creative and cultural experiences and who feel they are developing their own creativity are more capable of sustaining a fulfilling life in education (Barnes 2013b). As a result of meaningful professional development, teachers may be better able to plan a series of powerful experiences to span the year for each class, and those experiences must also be potentially life-changing.

Therefore in asking children to apply their new knowledge and skills to real and engaging challenges the successful pedagogue helps ensure the existential, meaningful and satisfying conditions required for deep learning. In planning both feedback and a yardstick for progression the teacher uses their experience and knowledge to make assessment part of a pleasurable and enriching learning journey. The teacher will teach the required skills or knowledge and then give children a chance (independently or in groups) to use their new learning to solve a problem, create a product, presentation, collection, exhibition, performance or composition. This is both an assessment opportunity for teachers and children and a chance to understand the usefulness of the new learning.

## 2.4 Theoretical Framework

The study was underpinned by Albert Bandura's Social Learning Theory (SLT). This theory came into existence in the 1960s and it was later developed into the Social Cognitive Theory (SCT) in 1986. The SCT posits that learning occurs in a social context with a dynamic and reciprocal interaction of the person, environment, and behaviour. Social-learning theory (Rotter, 1954) postulates that, "the theory is social in nature because it stresses the fact that the major basic modes of behaving are learned in social situations and are inextricably fused with needs requiring for their satisfaction the mediation of other person". It is through these theoretical frameworks, affective knowledge can well be practiced by appreciating oneself values while adapting and accommodating different views of others. Kabiru and

Njenga (2009) points out that, children learn in their environment as they interact and observe those living in that same environment (Kabiru and Njenga, 2009). The unique feature of SCT is the emphasis on social influence and its emphasis on external and internal social reinforcement. The SCT considers the unique way in which individuals acquire and maintain behaviour, while also considering the social environment in which individuals perform the behaviour. The theory takes into account a person's past experiences, which factor into whether behavioral action will occur. These past experiences influences reinforcements, expectations, and expectancies, all of which shape whether a person will engage in a specific behaviour and the reasons why a person engages in that behaviour.

The goal of SCT is to explain how people regulate their behaviour through control and reinforcement to achieve goal-directed behaviour that can be maintained over time. With the implementation of external and internal factors, people regulate their behaviour from a combination of both cognitive processes and environmental manipulation. The theory presents four factors that affect observation learning and these are: attention, retention, production and motivation. If past reinforcements have led someone to pay attention to a model, then future reinforcements would selectively engage in a behaviour that was observed and finally repeat it over and over. The Social Cognitive Theory is particularly relevant to this study because if learners are presented with any social environment, which in this study is friendly learning environment, they would analyze it then model by paying attention to those aspects that provide the friendliness. When the school, which forms the learning environment is safe, caters for all categories of learners, is gender-responsive, is health providing and has a community that supports its activities, the learners will deem it conducive for their learning. These aspects make the children motivated and are therefore likely to develop affection for the school and all other service providers in school leading to better retention. This in turn leads to the achievement of the third millennium goal which is advocating for Education for All.

## 3. Methodology

### 3.1. Research design

This research was designed with a quantitative approach. Quantitative research is a research process that uses data in the form of numbers as a tool to analyze information about what you want to know. The study used a descriptive design since we focused on providing information about the naturally occurring status, behavior, attitudes and/or other characteristics of a particular group on the Instructional Strategies Used by Teachers in Public Early Childhood Education Centers in Uasin-Gishu County, Kenya

### 3.2. Population and sample

This research was conducted on 341 head teachers and teachers spread across in all the 775 public ECDE centers in Uasin-Gishu County from a total population of 3105 head teachers and teachers of public ECDE. The technique of determining the number of samples is based on Taro Yamane (1973) sample size formula and modified by Kent (2008) was used to select a sample size of 341 teachers. Determination of the number of samples in each ECDE centers is carried out proportionally.

### 3.3. 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.

### 3.4. 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 was done to identify characteristics of 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 by the help of panel of experts (lecturers in the department of early childhood education) to evaluate the content validity of questionnaire and the questionnaires conformed to the theoretical expectations which have been indicated in the theoretical framework.

## 4. 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 361 questionnaires distributed to the respondents; Only 341 questionnaires were filled and completed accurately and were used for analysis with a response rate of approximately 94.00%. The response rate was, therefore, accepted as adequately sufficient for the intended purpose (Oso & Onen, 2005).

**Table1: Study Response Rate**

Category	No of Respondent	Percentage
Sample Size	361	100.00
Response	341	93.54
Non-Response	020	6.46

*Source: Survey Data (2018)*

### 4.1 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 indicate that most of the ECDE teachers incorporated play activities in 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.

**Table 2: Instructional strategies used by ECDE teachers in Uasin-Gishu County**

	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.

Source: *Research Data, (2018)*

Further the study found 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, who 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-round learning opportunities while providing are enriching 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, as well as 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 classroom. This indicated that the teachers can tailor learning experiences to differentiate among the individual needs of students in the classroom. This agrees with Heacox, (2012) that teachers can also differentiate by matching assignments to readiness levels, 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 evidence 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 that the extent at which ECDE teachers used cross-curriculum teaching as their

instruction strategy (n=24, 7%). Thus, the 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 can help students go much deeper in learning concepts and skills. This agrees with Kelly, (2013) that Cross-curricular instructional strategy can be easy to 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 don't simply tell students what they should know, but instead they engage children in exploring and uncovering the information in a more meaningful.

In a nutshell, the result in table 4.4, showed that the extent at 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 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. Each student should have the opportunity to be both the tutor. 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.



## 5. Conclusion and Recommendations

### 5.1 Conclusion

ECD teachers were using integrated technology strategy, cooperative learning structures in their classrooms, differentiated instruction in their classroom 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. The using of 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,

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assessment for learning) play a critical role in facilitating the learning process.

### 5.2 Recommendations

The following recommendations were observed:

1. Continuous training and constant evaluation of ECDE teachers in Uasin-Gishu County with a special focus on instructional strategies.
2. County education office should step up their oversight on early childhood education. This will ensure the students are enlightened through exposure to the right instructional strategies.
3. There was disharmony between knowledge of and use of instructional strategies since most of the teachers reported being aware of classroom instructional strategies, yet only a fraction of them utilized such strategies in their teaching process. Greater scrutiny of the instructional process by the preschool administrators and regulatory agencies to ensure that all preschoolers are exposed to various instructional strategies so as to accommodate the learning differences among children.

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