
Creativity and Innovation in Early Childhood Education: The Role of Educators

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Abstract

Creativity is increasingly cited as the key to social and economic change in the 21st century. It is also a very modern concept making its first appearance as an English noun in 1875. This paper investigated creativity and invention in early childhood care and education, the role of educators (teachers). Early childhood is a time of great opportunity for learning and development. In these early years children learn through loving, trusting and respectful relationships, and through discussion, exploration and play. Creativity is one of the characteristics which define us as human beings and the pre-school pupils taking part in creative activities, starting from an early age, is essential for acquiring the skills required in today's world as it will enable them cope with the competition therein. The paper discussed what should be considered in creativity, the role of creativity and invention in early childhood education, and the role of teachers in using creativity to foster invention. Analysis shows that teachers in the selected schools not have the required qualification and that even when they are being trained, such are usually offered about childcare and development, but not much on creativity and the innovation, most schools lack the required number of teachers per-classroom. The paper recommended that, Collaborative problem solving method should be encouraged among care-givers i.e the 21st century teachers to enable the pupils develop in knowledge, skills, attitudes, values and ethics and that, school settings should have distinctive and attractive spaces that support children's creativity, giving them freedom to make, move, investigate, reflect and play.

Early childhood is a time of great opportunity for learning and development. In these early years, children learn through loving, trusting and respectful relationships, and through discussion, exploration and play. They learn about languages, how and when to use them; they learn to think and to interact with others and the environment. They learn to be creative and adventurous, to develop working theories about their world, and to make decisions about themselves as learners.

Taking part in creative activities, starting from an early age, is essential for acquiring the skills required in today's world. There are few English nouns that have generated such relentlessly good publicity as the word 'creativity'. It is increasingly found scattered across the literature of the arts and sciences, industry, business management, information technology, education and government. It has been called the key to economic growth, the 'decisive source of competitive advantage', and the 'very heart' of 'wealth creation and social renewal'.

Creativity is one of the characteristics which define us as human beings. It is available to everyone, not just the talented, and can be taught and encouraged. A creative action may not be unique, but new to the person doing it. Nelson (2010) observed that, with the recent surge of interest in creativity, it is surprising that from a cultural historical perspective the idea of creativity remains under-examined.

This article sought to examine creativity and innovation in early childhood education with particular reference to the role of teachers/caregivers. First by conceptualizing creativity, invention and early childhood education, creative teaching and teaching for creativity, teacher's in early childhood education and creativity motivation.

Conceptual Clarification

The conceptualization of central concepts will be strictly on working definition of concepts under study.

Creativity

Creativity is defined with various degrees of difference by researchers, however within the discipline of psychology (where most of the recent research on creativity has been undertaken in relation to education), it is defined as the ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e., useful, adaptive concerning task constraints) (Sternberg and Lubart cited in Cremin, Craft, and Clack, 2013). The notion of creativity compresses the four P's of Person, Process, Product, Press which Rhodes (1961) originally identified, combining the production of original and valuable outcomes with the impact of these on others (Cremin, Craft, and Clack, 2013).

This is a very fast enlightenment bearing in mind ideas related to problem solving, a topic for an article, a plan for research, a work in literature or fine arts, a new

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theory, unknown technique or method. Thus, creativity means exiting from what is already known. It is a step toward what it is unknown or designing a new line of thinking, giving different alternatives for the problem, discovering something that can lead to other things, finding a relationship among the ideas or formulating a new original idea.

Innovation

Innovation is a new idea, more effective device or process. It can be viewed as the application of better solutions that meet new requirements, inarticulate needs, or existing market needs (Franklin, McNinch, Sherman, 2013). This is accomplished through more effective products, processes, services, technologies, or ideas that are readily available to markets, governments and society. The term innovation can be defined as something original and more effective and, as a consequence, new idea, that "breaks into the society. The process of translating an idea or invention into a good or service that creates value or which customers will pay.

This is transferring creative abstract ideas into concrete things, products or services. Invention is finding something new or producing something originating from the needs and fulfilling these needs. Therefore, the ideas are transferred into something useful in fulfilling the needs of human being. In all these cases creativity is essential and without creativity no discoveries, innovations or inventions can be achieved. For Cremin (2009), before considering an idea to be an innovation, it must have the following;

Fluency

Fluency means richness in production, being more than the others, plentiful in quantity, fertilized ideas, and a lot of work. Fluency is producing more ideas, answers and alternatives that can be accepted by other specialists in a defined period of time.

Flexibility

Flexibility is a way of looking to things from different points. It means variety in thoughts. It is flexibility in thinking and diversity in doing things. It means also putting ideas, answers and alternatives that have been produced in different species, groups, classes, families, ranks and categories. Thinking like other people is not preferred in creativity. Instead, the differences are important and are always investigated. Therefore, the teacher has to encourage his or her students to think in different ways.

Originality

Originality is novelty, innovation in a specific area or producing something new, ingenious and unique. Originality includes individuality, uniqueness, unfamiliarity,

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oneness and singleness. Originality needs very high cognitive energy, uniqueness in the field, new in the area, great in issue, being perfect in making something, best in the subject, tending to be complete and very faultless.

It is also unknown how long it takes to produce an original idea. It may take hours, days or months and even years. However it is known that the creative ideas need to a short or long period of incubation. This incubation period is very vital for original ideas.

It is also known that creative ideas are mixture of reality and imagination. The percentage of the imagination to reality is unknown and it differs from one idea to another. Thus, the imaginations of children should not be forbidden, but it has to be encouraged from the first years of schooling as it is the foundation for invention.

Early Childhood

This is defined as the period of a child's life from conception to age eight, however, in Nigeria it is a period between 0-5 years (UBEC, 2013). These years are seen as those before compulsory schooling and as such are critical to the holistic development of the child.

Early Childhood Education

Education is the systematic way of acquiring knowledge, skills, values and desirable norms which take place commonly in a formal school system. This is a branch of educational theory which relates to the teaching of young children (formally and informally) up until the age of about eight. It is also the care and instruction of young children outside of their home.

Development

Development is the gradual process of change in the child which is exhibited physically, mentally, socio-emotional, spiritually and morally (UBEC, 2013). It went further to state that, developmental change may take place as a result of genetically controlled process of maturation or consequences of environmental factors and learning.

Minimum Standard for Early Child Care Centers in Nigeria

According to UBEC, (2013), early child care centres in Nigeria are of different types and includes;

- i. Day care/crèche (0-2years)
- ii. Pre-nursery/play group (3-4years)
- iii. Nursery/Kindergarten (3-5years)

All of these centres may exist independently or together and in establishing any of these types, there are prescribed minimum standards with specific characteristic needed to

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ensure an all round development of the child. Below are of the characteristics as identified by Agusobo, (2012)

- i. Play ground and appropriate equipment
- ii. Fence
- iii. Classrooms with enough space well ventilated adequate for about 20-25 (0-3years), 30-35 (3-5years) children with flexible sitting arrangement and well decorated with functional pictures.
- iv. Age appropriate furniture
- v. Water, hygienic environment, psycho-social care, early learning, health, age appropriate toilet and safety measures etc.

Creative Teaching and Teaching for Creativity

A distinction is made in the NACCCE report (1999) between teaching creatively and teaching for creativity, defining the former as “using imaginative approaches to make learning more interesting and effective” (NACCCE, 1999), while relating the latter to the objective of identifying young people’s creative abilities, as well as encouraging and providing opportunities for the development of those capacities (Jeffrey and Craft, 2004). Creative teaching focuses on teacher practice, whereas teaching for creativity highlights learner agency (Craft, 2005). The two practices are seen interconnected and indispensable in this framework. For the features of creative teaching, such as imaginative, dynamic, and innovative approaches (Jeffrey and Craft, 2004), often in-spire children’s imagination and new ideas and lead directly to teaching for creativity. On the other hand, the pedagogical strategies of teaching for creativity that facilitate children’s agency and engagement, such as strategies of learning to learn, or to exploring more new possibilities, often seek to be inventive in order to arouse curiosity and learning motivation (Cropley cited in Cremin, Craft, Clack, 2012).

In addition, any supportive effort for nurturing creativity can be found in both practices. Through teaching creatively, teachers encourage learners’ creativity by passing on their enthusiasm, imagination, and other talents (Lucas, 2001); whilst creating a learning context for problem solving and appreciating learners’ creative contributions are essential principles of teaching for creativity (Fryer in Cremin, Craft, Clack, 2013). The pedagogical principles to foster children’s possibility thinking as identified by Cremin, Burnard, and Craft (2006), are useful to describe how teachers create a supportive environment through effective strategies that prioritize children’s autonomy. They maintain that the three principles, involving standing back, profiling learner agency, and creating time and space, help to encourage the children’s questioning and active engagement in learning by passing the decision making and the responsibility for learning back to the child. In short, the two practices are interrelated

and are salient elements of building a context for children's creative development and engagement.

Creative Learning

When considering pedagogy, most research and implications seem to focus on the teacher, classroom context, or teaching content, and few include the importance of learning until the complex model of pedagogy proposed in recent years (Watkins and Mortimore, 1999). It is suggested in this paper that the neglect of a spontaneous and creative learning and its characteristics, such as autonomy, could result in difficulties in fostering children's creativity. Therefore creative learning is considered a salient feature in the framework of creative pedagogy.

Torrance cited in Cremin, Craft, Clack (2013), contrasted learning creatively with learning by authority when arguing about giving children a chance to learn and think creatively. Children learn by authority when they are told what they should learn and accept the ideas from the authority (e.g. teachers, books); whereas in the other process, children learn by means such as questioning, inquiring, searching, manipulating, experimenting, and even aimless play. Children explore out of their curiosity, which is natural to human beings. Torrance also connected learning and teaching by suggesting that during the learning process, children's creative skills and methods are required; while at the same time the learning context, which is filled with curious problems to explore, stimulates spontaneous learning and flexes the capacities for learning and thinking creatively.

In more recent studies, several features of creative learning are revealed including playfulness (Kangas, 2010), collaboration (Mardell, Otami, and Turner, 2008), development for imagination and possibility thinking (Craft, Cremin, Burnard, and Chappell, 2008; Spendlove and Wyse, 2008), and supportive/resourceful context (Oral, 2008). These features of creative learning not only echo the previous argument, but imply the interplay between creative endeavours of teachers and learners (Lin, 2009).

The Role of Teachers/Caregivers in the stimulation of Creativity and Innovation among Pupils

Encouraging creativity in young children is a process where teachers must open their own channels of allowing, accepting, and turning over some control to the children themselves. James D. Moran cited in Kohl (2013:23), suggests that teachers:

They can sing looking into the child's eyes, hug, and pat, provide materials that will aid them to walk, sit, paint, draw and contribute to the class work etc. Caregivers should use various methods of handling instruction like demonstration, role play, dancing, jumping, clapping, singing and drama etc. Emphasize should be on process rather than

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product, provide a classroom environment that allows children to explore and play without undue restraints. Adapt to children's ideas rather than trying to structure the children's ideas to fit the adult's and accept unusual ideas from children by suspending judgment of children's divergent problem solving. Use creative problem solving in all parts of the curriculum. Use the problems that naturally occur in everyday life and allow time for children to explore all possibilities, moving from popular to more original ideas.

Sparking creativity is enjoyable and easy through common classroom activities. For example, go for a slow walk with your children outdoors and notice the world at hand. Talk about the many colours and precious details of nature. Come back to the classroom and give the children crayons, chalk, or paints to express what they remember seeing. On another day, take drawing materials along with you to a park or out into the schoolyard. Encourage the children to notice something that they might have overlooked before. Drawing is an excellent way for children to see in detail. The creative benefits are immense, and you will have fun, too.

Statement of the Problem

Creativity is one of the characteristics which define us as human beings. It is available to everyone, not just the talented, and can be taught and encouraged. A creative action may not be unique, but new to the person doing it. Creativity and innovation can therefore, be taught. Teachers can be creative in their own teaching and can also promote the creative and innovative abilities of their pupils. The role of educators is to recognize young people's creative capacities and to provide the particular conditions in which they can be realized. Such, is lacking among Nigerian teachers as most don't have what takes to develop creative and innovative pupils since they themselves are not. The problem here is that, educators lack the requisite methods of teaching that bring about creativity in their pupils or most of the times adopt methods that are not creativity friendly in their teaching and learning processes.

Hypothesis

- i. Environment affects the way in which we experience different stimuli and how we respond to and interact with other people.
- ii. There can be many positive outcomes when young children readily share their creative work with others.
- iii. The principles of early year's education require practitioners to understand how children develop and learn during the early years.

Research Questions

- i. What is the relationship between learning environment and pupils' creative development?
- ii. How can open day's exhibition by pupils enhance their creativity?
- iii. To what extent can teachers/caregivers' qualification enhances pupils' creativity and innovations?

Population for the Study

The population of this study includes all the teachers and the pupils of ten (10) nursery/primary schools which include five public and five private schools namely;

Public Schools

- i. Islamiya nursery and primary school Akwanga
- ii. RCM primary school Nassarawa Eggon
- iii. Central primary school Akwanga
- iv. Pilot primary school Ube and
- v. RCM primary school Aloce.

Private Schools

- i. Bishiri International schools Akwanga
- ii. Fatima private Akwanga
- iii. Crown kings and Queens Akwanga
- iv. Solid Foundation nursery and primary school Akwanga and
- v. Shepherd's International nursery/primary school Akwanga.

The reason for this selection was based on the fact that, the mentioned schools have pre-primary and day care sections (Early Childhood Education) and as such, the need to access their teachers qualifications and their level of readiness in terms of infrastructural facilities.

Sources of Data

The researcher adopted both the primary and the secondary sources of data. The primary source includes the questionnaire, interview and personal observation of the teachers. The questionnaire is an open-ended type so as to give respondents the opportunity of expressing themselves while the secondary sources include journals, books, research by other persons, magazines and the internet.

Analysis of Data Collected

A summary of the information and opinions obtained from the respondents on the items of the questionnaire is presented in the tables below followed by the analysis

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and interpretation. The questionnaire was divided into two parts, the first parts is for head teachers while the second is for caregivers/teachers.

Responses for Head Teachers

Questions	Responses
Standard classrooms	Seven (6) out of the ten schools visited meet the minimum standard of classrooms stated above
Number of Teachers	Five (5) schools out of the ten schools have twelve teachers, three have eight while two of the schools have only five teachers at the section understudy.
Number of teacher Per-classroom	Four of the schools covered have two teachers per-classroom while the other six has only one teacher in a classroom.
Number of Pupils Per-classroom	Three out of the school visited have twenty-seven pupils in a classroom at the crèche, pre-nursery and nursery, two had fourteen while the other five had forty-three at the day care, thirty-eight at the play/nursery classrooms

The above table shows that most of the school under study have not met up the minimum standard of the pre-school requirement which guarantee creative among the pupils as the minimum standard require that, the percentage of pupils to teachers is twenty-five to two so as to provide them with ample opportunity of attending to the pupils as care-giver. The findings revealed that most school under study are lacking as some of the classes are too small for effective play and their settings are not with large spaces and most rebuild or repaint the classes after every session, with such, It can be difficult to plan for activities such as drama or create stimulating displays on the walls.

Responses from Classroom Teachers/care-givers

Questions	Responses
Teacher's Qualifications	In the ten schools visited, most of the teacher/care-givers have the National Certificate in Education (NCE) while few have Ordinary Diploma (OND) and National Diploma (ND).
Area of Specialization/Field of Study	Out of all the teachers/care-givers in the ten schools visited, Only one Studied Early Childhood Care Education (ECCE), four have Primary Education Studies (PES) as there area of Specialization while others have their educational qualification (NCE) in the following areas; English/Social Studies, Computer/Maths, Geography/Maths, CRS/Social Studies, and Business Education etc.
Age Bracket of the Teachers/care-givers	Most of the teachers are with the age bracket of 20-35 only a few are within the age bracket of 39-49 with particular reference to the public schools.
Methods used by teachers/care-givers in teaching	In virtually all the schools visited teachers/care-givers responses shows that they uses the eclectic methods particularly i.e picture as tool of teaching, play way, demonstration and interaction only but a few uses the story tells, songs and drama to teach.
Open day as an activity in the school calendar	In all the private schools visited, open day in the school is part of the terms plan and the activities on that day are centered on parents/teachers relationship and pupils performances in class while only two public schools observes that day but not included in the school programs of activities within a term.

The table above indicates that, most of the settings under study do not have the money to pay a professional artist or teachers as most of their teachers are either NCE or

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Diploma or BSc in fields not relevant to specialized areas needed. All the schools visited need to employ/engaged the services of qualified teachers who studies ECCE or PES to enhance creativity and innovation among pupils as they are provided with the necessary tools needed to cope with their pupils. The table also showed that the teachers adopts only few methods of teaching recommended for this group of learners while most of the time, they used method which are not learner friendly are this level of education. What most of the schools called open day is actually an assessments/appraisal days as parents comes only to assess their wards performance and interact with teachers. The study revealed that none of the school under study have such a day where both parents and care-givers come together to see and encourage their wards on the days of exhibitions to show pupils work that they have done in the class as when this is done, some parents and care-givers may be able to come and share in the activities.

Conclusion

Teachers who respect children's ideas help them learn to think and solve problems for themselves. Children who feel free to make mistakes to explore and experiment will also feel free to invent, create, and find new ways to do things. When it comes to fostering and developing of creativity, learning environments such as schools and kindergartens have a key role to play. Sternberg and Lubart (1999) emphasize the significance of such an environment that encourages and rewards creativity: even though an individual has an innate capability for creative thinking, the support of the environment is required in order for one to be able to present and share his/her creative ideas and products. Available materials and equipment are one aspect of educational settings affecting the possibilities to produce creative outcomes and share them.

Recommendations

There is the need for early year's settings to have distinctive and attractive spaces that support children's creativity, giving them freedom to make, move, investigate, reflect and play.

Collaborative problem solving method should be encouraged among care-givers or the 21st century teachers to enable the pupils develop in knowledge, skills, attitudes, values and ethics as that will create in them new ways of thinking which includes creativity and innovation, critical thinking, problem solving, decision making, learning to learn (as the pupils discover new idea, they read to know better) etc since the method is not about problem solving building knowledge in the 21st century learner.

Proprietors should be encouraged to employ ECCE trained teachers as they are expert who can promote creativity and enhance innovation among pupils

Workshops should be organized for the pre-nursery/nursery school teachers to acquaint them with modern techniques of guiding pupils in varieties of activities that are carried out in the classroom

Sharing with each other among the pupils and with adults can be a way of celebrating what they have done. It can build self-esteem and shows children that their personal creativity is recognized and valued. This can only be done on open days as inviting parents and care givers to join in with creative arts activities, for example with singing, dancing or making, helps build the confidence of both children and adults. Parents and care givers may feel more able to support their children by continuing and developing arts-based activities at home.

Pupils should give particular attention to opportunities to work alongside artist and other creative adults, as working with such people will encourage them to develop confidence in their own creativity and to work in new ways.

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