

## Perceived Importance of ICT in Preparing Early Childhood Education Teachers for The New Generation Children

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### ABSTRACT

Children of the present age are born into the world that is highly driven by Information and Communication Technology (ICT). They begin to manipulate ICT materials as soon as they grow old enough to manipulate things. There is need therefore to provide ICT-learning experiences that can aid their holistic development. To do this, early childhood professionals must be positive about the roles of ICT in children's development. This study therefore investigated the perception of Early Childhood Education (ECE) lecturers and students on the importance of ICT in preparing ECE teachers for the new generation children. The study adopted the descriptive survey research design. 10 lecturers and 300 students of ECE were purposively selected as sample. One validated questionnaire titled "Questionnaire on Information and Communication Technology" (0.83) was used. Data collected was analysed using percentage, mean and standard deviation. Findings revealed that, using ICT in preparation of ECE teachers can help them to facilitate children's cognitive, physical and social-emotional development, and as well sustain children's interest in learning. Recommendations include training of all Nigerian ECE lecturers in the use of ICT for teaching and learning and equipment of departments of ECE in Nigerian Colleges of Education and Universities with adequate and relevant ICT materials.

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### 1. INTRODUCTION

Information and communications technology (ICT) has become part of our daily lives. It is obvious that any field of endeavour that must succeed will have to depend on one form of ICT or the other. It has become one of the basic building blocks of modern society [1] and many countries now regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education [2]. In early childhood education, the term ICTs could include computers digital cameras and digital video cameras, creativity and communication software and tools, the internet, telephones, fax machines, mobile telephones, tape recorders, interactive stories, computer games, programmable toys, videoconferencing technologies and closed-circuit television [3], data projectors, microphones, headphones electronic whiteboards and more [4]. A look at these information and technology materials shows that some of them are available in homes therefore many children would have had access to interacting and using some of them before ever going to school. What this implies is that the children of today are those new generation children who are born into a world where technology permeates.

We are in the world of these new generation children whom are referred to by some authors as “digital natives” [5], the “millenials” [6] and the “D-generation” [7]. These new generation children are born into a world of ICT driven society where remote controls, mobile phones, programmable toys, digital cameras and computers among others are tools that are available for them to use at home as soon as they have grown enough to manipulate play materials. This is why [5] observed that digital technology is so much part of their lives that they barely notice it is there. The new generation children can press play and stop button on DVD and CD players, use the remote to surf television channels [5], use mobile phones to play game, select their favourite music and take photograph of their siblings, type letters on computer and view them on screen and operate programmable toys for play and fun. These are to mention few among the many things the new generation children can do with the available ICT tools around them.

Since the new generation children are born into the world of ICT and they have been using and interacting with ICT tools even before ever going to school, it is expedient that they are given opportunity to enjoy many benefits that ICT can provide them in their learning process and development. Dr. Perry, in an interview, corroborates this as he submitted that technologies should be used to enhance curriculum and experiences for children because technology is revolutionizing the world the new generation are living in and it is not going to go away. Early childhood education is concerned about providing quality experience for children in order to aid their cognitive, physical and social-emotional development. ICT can play vital role in achieving this role. In the area of cognitive development for instance, [8] reported some authors by saying that when teachers support children and media rich content is integrated with the curriculum, technology experiences are associated with better language and literacy outcomes, such as letter recognition, sequencing, and sounds; listening and comprehension; vocabulary; and understanding concepts about stories and print. This role of ICT can also be in helping children develop skills of reasoning, predicting and problem-solving especially when they play games, surf television channels with remote controls and interact with touch screen media tools among others.

[9] has observed that since children are active and mobile, they need frequent changes in learning modalities. Thus, in the area of physical development, children can develop their fine motor skills while manipulating buttons or keys on technology materials such as mouse, remote control, mobile phones, computer keys and programmable toys. They can also develop their gross motor skills while crawling or running after a movable programmable toy or moving around the school premises to use battery powered walkie-talkie. As for social-emotional development, children can work and play together to use technology tools. In the process, they would have opportunity to relate to one another, share materials, cooperate in achieving given tasks and accept others. Apart from this, ICT would enable the teacher to provide experiences with technology materials so that they can make learning interesting and sustain children’s attention in learning activities.

At this juncture, it must be mentioned that for children to enjoy the immense benefits that ICT can offer them in cognitive, physical, social and emotional development, their teachers must have the professional skills and experience needed. This informs the reason for the submission of NAEYC and Fred Rogers Center for Early Learning and Children’s Media, in their joint position statement titled “Technology and Interactive Media as Tools in Early Childhood Programs Serving Children from Birth through Age 8”, that educators must be knowledgeable and prepared to make informed decisions about how and when to appropriately select, use, integrate, and evaluate technology and media to meet the cognitive, social, emotional, physical, and linguistic needs of young children. [10] have agreed further that early childhood educators need training and professional development opportunities to develop the technology and media knowledge skills and experience needed to meet the expectations set forth in the statements. To corroborate this view, other authors have said that early childhood educators need to be supported with quality preparation and professional training, and they need available, affordable and accessible professional development opportunities that include in-depth, hands-on technology training, ongoing support, and access to the latest technology tools and interactive media [11]-[13].

Some research results have emphasized the need for professional development of pre-service ECCE teachers in the use of ICT [14],[15] while others have demonstrated the effectiveness of preparing pre-service ECCE teachers in the use of ICT [5]. It is pertinent mention therefore that this has implication for the lecturers who are expected to professionally prepare the Early Childhood Education teachers. In this vein, [10] and [15] have noted that teaching in this age of digital learning also has implications for early childhood teacher educators in how they integrate technology tools and interactive media in the on-campus and online courses they teach, and how well they prepare future early childhood teachers to use technology and media intentionally and appropriately in the classroom with young children.

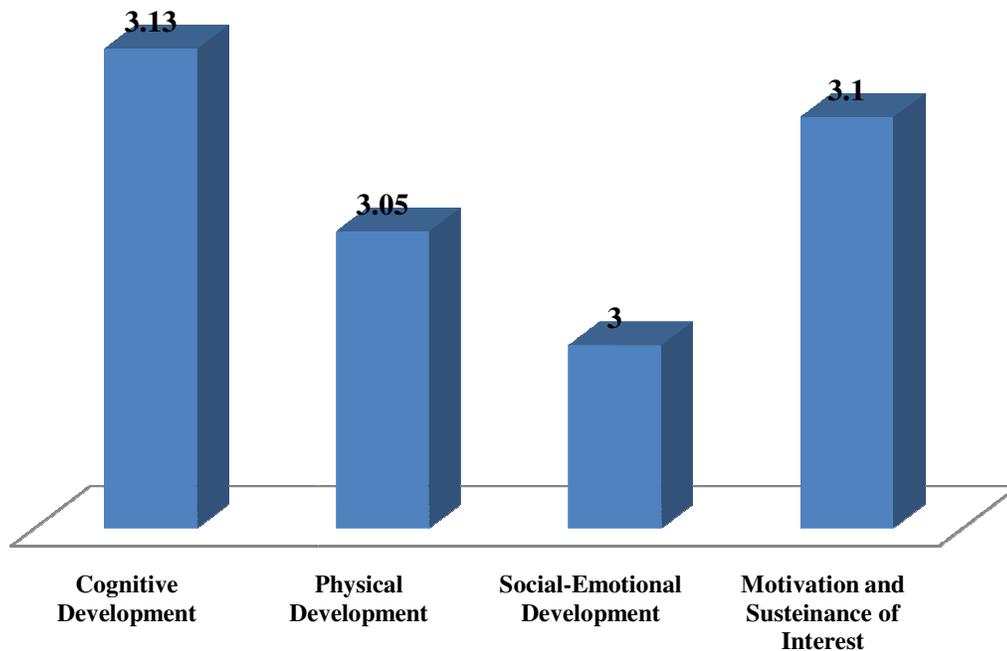
The big question that agitates mind however is whether the ECE lecturers who are expected to use ICT in teaching and the pre-service teachers that will provide ICT learning experience for children perceive that ICT can provide opportunity for holistic development of children. An opportunity to gain insight into

what the lecturers and students believe about ICT and holistic development of children would help to determine whether they will accept and fully appreciate the integration of ICT in professional preparation of ECE teachers. It is based on this premise that this study investigated ECE lecturers and pre-service students' perception on importance of information and communication technology in preparing the Early Childhood Education teachers for the new generation children.

## 2. RESEARCH METHOD

This study adopted the descriptive survey research design. The population for the study comprised all ECCE lecturers and students in Nigerian Federal Colleges of Education. 10 lecturers and 300 students were purposively selected in the Department of Early Childhood Care and Education in Adeyemi College of Education, Ondo, Ondo State, Nigeria. In all, the sample was made of 310 participants. One validated questionnaire titled "Questionnaire on Information and Communication Technology in ECE" was used. The questionnaire had 2 sections. The section A contained three items on demographic information of the respondents. The section B had 15 items. Items 1-4 were based on cognitive experiences, 5-6 were based on physical experiences while items 7-10 were based on social-emotional activities that can be provided for children by teachers using ICT. The remaining items 11-15 were based on things teachers can do with ICT to motivate and sustain children's attention in learning activities. The response type of Strongly Disagree, Disagree, Agree and Strongly Agree was adopted for the instrument. The instrument was given to two lecturers who have been taking ECE 215 (Technology for the Early Years) in Early Childhood Education Department for suggestions and corrections. 20 copies of the instrument was then administered in Ekiti State College of Education in Nigeria to NCE students of ECCE. The data collected was analysed using the Cronbach Alpha Technique and the instrument yielded reliability coefficient of 0.83. The data gathered was analysed using the descriptive statistics of percentage, mean and standard deviation and presented using bar chart.

## 3. RESULTS AND ANALYSIS



**Figure 1.** Bar Chart showing Weighted Average Mean Score of ECCE Lecturers' and Students' Perception

Figure 1 above shows that, out of 4.00 maximum weighted average value obtainable, the lecturers' and students' perception rated as follows: cognitive development (3.13), physical development (3.15), social-emotional development (3.00) and motivation and sustenance of interest (3.10). What this means is that the lectures and students agreed to all the positively worded items in the questionnaire used. Their perception in the four areas investigated is therefore positive.

Findings from this study revealed that ECCE lecturers and students perceived that preparing teachers using ICT can help them to facilitate children's cognitive, physical and social-emotional development. Again, it was found that the teachers can use ICT to motivate children and sustain their interest in learning activities. These findings may be associated with the fact that the ECCE lecturers have been informed through training, conferences and or their personal about the immense benefits that ICT can offer in preparing ECCE teachers. Again, it may not also be unconnected to the fact that the students covered in this study have been exposed to a particular course titled "ICT in the Early Years". They might have learnt about the importance of ICT to their training. These findings corroborate the report of some authors given by [8] that when teachers support children and media rich content is integrated with the curriculum, technology experiences are associated with cognitive outcomes.

In another dimension, it is possible that the lecturers as well as the students have read about some articles or position statements emphasizing the need for introduction of ICT in ECCE teachers' preparation programmes. Such position statement is that of NAEYC and Fred Rogers Center for Early Learning and Children's Media in which it was mentioned that educators must be knowledgeable and prepared to make informed decisions about how and when to appropriately select, use, integrate, and evaluate technology and media to meet the cognitive, social, emotional, physical, and linguistic needs of young children.

#### 4. CONCLUSION

The opinion expressed by ECCE lecturers and teachers is an indication that ICT can play a very vital role in holistic development of children. It can aid the caregiver or teachers to provide ICT-based learning activities and experiences that can sustain children's interest in learning and as well aid their cognitive, physical and social-emotional development. It is recommended therefore that all ECCE lecturers in Nigeria should be trained by the government and appropriate bodies and agencies in the use of ICT for teaching and learning. Such training should be practical in nature. In the same vein, the government as well as interested bodies like UNESCO should train the on-the-job teachers and early childhood care providers who are working with children, through seminar and conferences, on the efficacy of ICT in facilitating holistic development of children. Also, the government, donor organizations and school management should equip all the departments of ECCE in Nigerian Colleges of Education and Universities with relevant ICT materials. Apart from this, lecturers should provide practical experiences to pre-service ECCE teachers on how they use ICT to facilitate holistic development of children.

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