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## Information and Communication Technology and Special Needs Education in Nigeria

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### **Abstract**

*Education is becoming information intensive and information based. Networking being the carrier of educational process, information and communication Technology (ICT) has emerged as an effective distributive approach to managing educational matters and learning process in this era of globalization. It is in the light of this that this paper outlines some of the importance of information and communication Technology on Special Needs Education (SNE) in Nigeria. Some problems of the implementation of the ICT in SNE as highlighted include lack of qualified teacher to handle Special Needs Education, lack of adequate infrastructure, ineffective implementation of policy, and poor environment conditions among others. Meaningful suggestions to improve the effective implementation of the programme were also made.*

Information communication Technology (ICT) can be seen as the study of the business of developing and using Technology to process information and communication within a very short time. It is one of the basic building blocks of modern society. It is when information is imported that it can be stored adapted and disseminated over and again when required.

Akullolu (2003) sees information and communication Technology (ICT) as mainly the processing in information using electronic devices. Agnoola (2001) noted

that ICT is a range of products and systems which handle process and provide information using computers and or telecommunication techniques.

The National council for Educational Technology (NCET) in United Kingdom opined that information and communication Technology (ICT) creates opportunities to handle, text and images, numbers and graphs, instruction music and sound and to process information by organizing and re-organizing, storing and communication.

Information and communication Technology (ICT) is one of the world fastest growing industries in view of the fact that it has the ability to create opportunity for mankind to store, retrieve, process, distribute, manipulate, review, update and analyze data at will (Owobi, 2008). One of the most significant innovations in the 21<sup>st</sup> century that has brought about rapid social transformation in human Endeavour at interpersonal, international, nation, regional and local levels is Information and Communication Technology (ICT). Has made the world to turn into a “global village” and opened up opportunities to accessing information.

Yilji and Waldak (2008) observed that the world is being driven by globalization, technology and devices. Nigeria as a developing country is not left out. It requires qualitative, affordable, innovative, reliable and readily available information technology production to enable easy learning as it is a survival skills for facilitating the work and activity of man.

Special Needs Education (SNE) on the other hand is that kind of educational services given to meet the needs of Special Needs children (SNC) i.e the blind, hearing impaired gifted learning disabled, retarded physically handicap and these with other health problems, such as special methods, appropriate materials, specially trained teachers, adoption and modification of the programme to the needs of special children. Obani (2005) sees Special Needs Children (SNC) as those who experience difficulty with their daily activities is compared with their age.

In this paper therefore, emphasis is laid on the importance of ICT in SNE in Nigeria, importance of ICT in special needs education for national development, problems associated with ICT in special needs education (SNE) in Nigeria are discussed. Some recommendations/ suggestions are also outlined for further improvement with a conclusion.

### **Importance of ICT in SNE in Nigeria**

The need for ICT in Special Needs Education in Nigeria cannot be overemphasized. ICT provides the skills the Special Needs Child needs in transforming knowledge and information for innovative and productive services such as helping the

child to; read with understanding, visual activity, mental alertness, write legibly, spell correctly, enhance attention span on task, love hands on activities, interest competition, capacity for independent work, creativity, curiosity and lots of others.

ICT helps Special Needs Children (SNC) who have difficulty in accessing curriculum and other learning materials which could be due to physical, mental or just concentration problems. (Becta, 2001). ICT helps in the special needs areas.

For children with physical and sensory disability, ICT can be used to provide switch access to classroom activities such as matching, sorting, work which specially adapted with large fonts, symbols and particular colours. This gives the special needs child some level of independence in partaking in activities in the regular classroom and ability to work in an environment that encourages play and investigation.

For pupils with emotional and behavioural difficulties, ICT can be used to offer the special needs child a non-threatening or non-judgmental situation; allow the child to be motivated, offers opportunities for success; gives the child the opportunity to be responsible for his own learning; and allows the child to work on tasks that are more manageable and achievable.

For pupils with learning impairment, ICT can meet its resources like symbol generating software, word processor, overlay keyboard, word list, clipart to illustrate writing, spell checkers, pictures and graphics to stimulate writing and illustrate, to enhance the meaning of texts and make writing more accessible.

For pupils who are sight defect, the use of suitable size of computer monitors enhances clarity of a display where possible colours are adjusted to meet the specific needs of the child, the use of large and clear font's size and speech feedback enable the special needs child to learn effectively.

### **Importance of ICT and Special Needs Education (SNE) for National Development**

ICT application remains one of the most veritable tools in achieving National aspirations especially towards achieving the Millennium Development Goals (MDG) and the new partnership for African Development (NEPAD) and National Economic Empowerment and Development Strategy (NEEDS). If Special Needs Children are involved and trained in Information and Communication Technology (ICT), they will be found involved in the following areas of national development.

- a. **Education:-** The Special Needs Children will also be involved in facilitating learning and exchange of educational materials, the web based cataloguing which

replaces the traditional Dewey cataloguing system, on-line learning system etcetera.

- b. **Medicine and Health:-** ICT in SNE supports efficient exchange of information between health professionals; enables transfer of patient records and improve clinical effectiveness.
- c. **Agriculture:-** ICT in SNE enable the special needs children to access useful information of farming techniques in relation to the handling of issues such as water management, improved varieties control, pre and post harvest management, improved varieties etcetera.
- d. **Transportation and Tourism:-** It enables special needs children to be awake of the multi-media information to prospective tourist in areas such as book flight, video, video brochures, airline, electronic info-system, digital telephone network, smart cards, internet etc.
- e. **Environment:-** It helps to provide geographic Information System (GIS) used to capture, store, check, integrate, manipulate, analyze, display model information on climate, soil and the terrain in Nigeria used for a dignute planning and development.
- f. **Manufacturing:-** ICT provides a network based manufacturing and production system of the Computer Aided design (Cad) which has improved the design of machines, tolls and this when the special needs children are properly involved will enhance our quest for industrialization.

### **Problems Associated with ICT and Special Needs Education in Nigeria**

Owobi (2008) noted that teachers who are responsible for the successful implementation of this laudable programme are not skilled in the use of ICT in the classroom. He also found out that these teacher are yet to understand the general coordination and operation of computers to enable personal effectiveness in handling them for development of special materials for teaching their special needs pupils. Other problems include;

1. Diffused responsibility for policy implementation as it affects Special Needs Solution (SNE).
2. Attitudinal barriers in relation to understanding the benefits and possibilities of ICT at policy and implementation level to Special Needs Education.

3. Lack of information on needs and requirements of schools and pupils upon which to base policy initiatives.
4. Limited finances supporting different aspects of provision or funding that is not needs targeted.
5. Limited availability of specialist hard and software resources.
6. No formalized national support structure for ICT in Special Needs Education.
7. Disparity in availability of specialist expertise at regional level including centralization of services within one area of the capital.
8. The geographic isolation of teachers effect SNE in some disadvantaged areas.

### **Conclusion**

Information and Communication Technology (ICT) in Special Needs Education can revolutionized and alter economic, social, educational and environmental conditions of mankind in the areas of food production, environmental improvement and protection as well as energy production and renewal. ICT can particularly change and improve everything including manufacturing, medicine and health, baking, engineering, teaching and learning among others.

Thus, changing the way we live, work, play and learn. It is on the light of this that this paper focuses on the importance of ICT in Special Needs Education and proffered suggestions for its effective use.

### **Recommendations**

From the foregoing. It is evident that the future belongs to those who are ICTY literate, be they schools, students, teachers, administrators or parents. For an ICT illiterate society like Nigeria, the following recommendations or suggestions made;

1. That Governme4nt should ensures that adequate ICT (hardware and software) and infrastructure are made available for all categories of special needs children for regular practice with such facilities as practice makes one perfects.
2. The misconception about information and Communication Technology (ICT) in Special Needs Education (SNE) should be corrected through regular and intensive workshops, conferences, seminars, Publications and Publicity of what the current concept is.
3. A conducive environment for practicing Information and Communication Technology in Special Needs Education should be created such as regular power supply, water supply, qualified staff, adequate infrastructure and learning materials.
4. Teachers and as well as all categories of special needs children should trained on internet use to enable them benefits from the opportunities that are available from the information super highway and globalization as it affects education.

5. Teachers of special needs education should be supported to be able to develop local educational software, manage equipment networking, and manage data and access e-mail so as to benefit in classroom interactions.
6. All schools should establish a computer and information technology laboratory and equipment which should be excessive to both staff and all categories of special needs Students.
7. They should be promotion of research, innovations and exchange of information and experiences in Special Needs Education.
8. The work load of Special Needs Education teachers should be at its minimal level to enable them enough time and room creating and effective practice of the Information and Communication Technology (ICT) in Special Needs Education.
9. That all teachers who practice and use the Information and Communication Technology to teach Special Needs Children should be rewarded and properly compensated by sponsoring them to attend professionally organized workshop, seminars, conferences on the use and practice of ICT.
10. That the educational community and the wider society be made to be aware to be aware of the benefits of information and Communication Technology in Special Needs Education (SNE).

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