EDUCATIONAL TECHNOLOGY: AN INNOVATION FOR IMPROVING SPECIAL EDUCATION IN 21ST CENTURY

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Abstract

The paper was initiated through the explanation of concepts of special education and educational Technology. The roles educational technology play in the improvement of teaching and learning in special education were discussed and recommendations made.

Some decades ago, provision of adequate education to children and adults who have learning difficulties because of different sorts of handicaps, such as blindness, deafness, mental retardation, social maladjustment, physical handicaps etc. was viewed by many Nigerians as a waste of materials and human resources. Some parents and relations of such unlucky ones publicly turned them into beggars who parade the streets begging for alms. The specially gifted ones who are intellectually preconscious found themselves insufficiently challenged by the programmes of the normal school and were unconsciously forced to take to stubbornness and aparty in resistance to it. All these problems had affected the socio economic and political development of our country.

In recent times, the field of special education has attracted the attention of Government, non government agencies, philanthropists and parents, in that they are putting efforts towards the education of special needs of children.

Education no doubt has been generally accepted as a major tool for socio economic development of people. The general purpose of education in Nigeria is to produce citizens who possess both cultural and expert knowledge in some special direction especially the cultivation of intellectual development necessary for self empowerment in the individual. It is therefore clear that Nigerians desire both qualitative and quantitative education not only for normal children but the special needs children too.

There is a global effort by World Bank and UNESCO towards eradicating illiteracy. The Education for All (EFA) summit held in New Delhi in 1993 culminated in the policy declaration that basic education and facilities as well as science and technological literacy be provided to every child and everybody by the year 2000. Although the year 2000 has come and gone, there is need to pursue relentlessly the global challenge for this category of children.

The purpose of special education as listed in the National policy on Education (2004) include;

1. To give concrete meaning to the idea of equalizing educational opportunities for all children, their physical mental or emotional disabilities notwithstanding.
2. To provide adequate education for all handicapped children and adult in order that they may fully play their roles in the development of the nation.
3. To provide opportunities for exceptionally gifted children to develop at their own pace in the interest of the nation's economic and technological development.

The desire to achieve these objectives is often frustrated by several structural administrative, political and resource constraints. Reduction of these constraints calls for innovation that can enhance special education. Educational technology no doubt is one of such innovations which when effectively applied can enhance education in special needs children viz a viz special education.

Meaning of Special Education

It is the education of physically or mentally handicapped children whose needs cannot be met in the ordinary classroom (wikipedia dictionary.com answer.com.merrian.website)

The National policy on education (2004) defined special education as "Education of children and adults who have different learning difficulties because of different sorts of handicaps,(……) due to circumstances of birth, inheritance, social position, mental and physical health pattern or accident in life(………). The document further stated that the specially gifted children as well as those who have various learning difficulties should be subjected to special education. This represents the range of educational management, provision encompassing curriculum adaptations, modification of teaching approaches, methods and materials, different school placement, alternatives ranging from special schooling through partial to full integration into the regular school system, put in place for children with different special educational needs (Obani, 1998).

The main trust of special education is on skillful adaptation to the exceptional children learning characteristics in order to enable them overcome their peculiar educational difficulties.

Exceptional children are those who are not in the normal curve when it comes to academics, social development and or mental development. This includes children who perform below the curve (i.e. children with specific learning disabilities) or those who perform at an accelerated rate i.e. Children who are in accelerated classes (www.education.com.question.definition)

In recent times, some inclusive concepts such as special educational needs, or special needs education have emerged. Thus widening the horizon of those considered for special education. Children who fall under the category are those:

i.   Experiencing difficulties in school whether temporary or permanently.
ii.   Lacking interest and motivation in learning.
iii.   Living on the street (i.e. street children)
iv.   Living in severe poverty condition
v.   Who are victims of war and armed conflict
vi.   Simply not attending school (UNESCO report 1994)

Giving the underpining facts above, the need and the importance of educational technology in the training of special needs children cannot be overemphasized.

Concept of Educational Technology

Educational Technology has gone through several phases of evolution hence the emergence of various views about it.

Onyejemezi (2004:36) defined educational technology as the systematic analysis of educational problems or activities which results in its identification of objectives, designing of resources and methods and the integration and evaluation of these for the achievement of objectives or better result.

Ogwumike (2009:30) posited that the resource aspect of educational technology is known by various names such as; educational communication media, teaching and learning materials, curriculum materials, instructional materials.

Dike (1999:13) asserted that learning resources can be in form of message, people, materials, devices, techniques and setting. These resources should be properly selected and utilized to effect behaviour modification in the learning.

Abimibade (1977) also described the concept of educational technology as the application of technology in education and technology of education. Technology in education refers to using the product of technology to enhance teaching and learning while technology of education refers to systematic management of teaching/learning events designed to put knowledge of theories of human learning and human behaviours into practice in a predictable and effective manner to attain special learning objectives (Omoniyi 2003).

From the undermentioned, the meaning of educational technology can be summarized as follows:
1. Educational technology involves a systematic process of analyzing, planning, designing, implementing and evaluating instruction.
2. It is a strategy for solving educational problems.
3. Educational technology involves a shift from "hardware" (product) to "software" (process) i.e. system approach to instructional design and an emphasis on the learner instead of the content.

Roles of Educational Technology in Enhancing Special Education
The position of educational technology in improving special education can be seen through the following:

It helps in providing the learner the opportunity for independent and individualized learning. This is made possible through the use of appropriate media such as programmed learning text, audio taped lesson, video tapped lesson and even computer assisted instruction.

Moreover, the problem of how to evaluate learner performance and obtain feedback is overcome through educational technology.

Another role of educational technology is that it provides the exceptional children opportunities of direct interaction with the realities of their social and physical environment. Also the use of educational technological devices and process makes the learned task to become more concrete, immediate, real and permanent to the learner.

Educational technology is utilized as a tool and a system approach (i.e. course design), instruction to provide equal learning opportunities to those who live far from school. Through the use of self instructional materials like video tapes, audio tapes with work books, those who are disadvantaged by distance will participate fully just like their counterparts in conventional classroom (Iwu, Ike and Chimezie 2006).

Stimulation of interest of the exceptional children is done through educational technology. It is a known fact that learners learn when they are ready to learn and when the learning task is interesting to them. Education of special needs children require that learners are exposed to some form of stimulation. This is achieved through utilization of educational media like charts, slides, computers, realia, models, transparencies, two and three dimensional objects etc.

Educational technology enables the gifted child to be more productive because it helps to speed up the rate of his learning. It makes the learner to understand deeper, retain longer and apply accurately what has been learned.

Another important role of education technology in enhancing special education is the improvement of quality of education offered to learners. This is done through application of system approach to instruction. This approach requires that learning task is broken into smaller segments, be itemized and set in stages with definite instruction to the learner. It equally calls for evaluation at each stage of teaching/learning process thus availing the teacher opportunity to identify strength and weakness of learners, learning problem and profits remedial and corrective measures. In line with this, Onyejemezi (2004:37) outlined activities done in system approach to instruction as:

1. Identify the educational problems to be solved or the educational activity to be undertaken.
2. State the objectives to be achieved in solving the problem or undertaking the educational activity.
3. Indicate the conditions necessary for the achievement of the objectives.
4. Map out appropriate methods/strategies and material resources to be used in order to achieve the objectives.
5. Design the way of knowing whether or not the objectives are achieved.
6. Implement or try out the prepared package of solution to the identified educational problem or task.
7. Determine whether the objectives have been achieved (evaluation)
8. Recycle the activity especially where the objectives have not been achieved.
9. Retain and apply the design in the solution of similar problems.

These activities if properly undertaken by the teacher will help to improve the overall efficiency of teaching and learning process in special education.

Conclusion

Special needs children and adults include those who are gifted, backward, visually impaired, physically handicapped, mentally retarded, those who have hearing defect and other behavioural problems, those who do not have access to learning in the conventional classroom due to distance.

These category of people require equal educational opportunity their disability notwithstanding; quality education and opportunity to develop at their pace so that they can fully contribute to the socio-economic and technological development of the nation. Educational technology which is both a tool and a problem solving approach to our instructional practices should be considered a crucial factor in educating special needs children.

Recommendations

This paper therefore makes the following recommendations:

1. Teachers of special need children and adults should from time to time undergo regular training on application of educational technology principles in order to enhance their productivity.
2. Functional educational resources centers should be established in all special education schools. This will help in exposing teachers to principles and practice of educational technology. Also it will motivate teachers to use educational technology principles in their instructional practice.
3. Educational technologists should be involved in curriculum planning as well as designing of instructional materials for special education programmes at all levels of education.
4. Posting of educational technology experts to schools and institutions where special education is offered. This is to ensure effective utilization of educational technology principles in teaching and learning.
5. Faculties of education in universities should be encouraged to mount higher degree programme in educational technology so that more experts in the field could be produced. (Akude 2003:40)

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