EDU 426
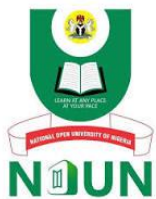**SPECIAL EDUCATION**

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NATIONAL OPEN UNIVERSITY OF NIGERIA

CONTENTS

INTRODUCTION

Welcome to Special Needs Education. This 2 credit units' course is an introductory course on Special needs education. This course will be available to all students offering education.

The course is made of which were grouped into six modules.

- Basic concept in Special Education
- Education of the Intellectually Retarded
- Education of the Hearing Impaired and Communication Disorders
- Education of the Physically and Health Impaired and Learning Disabled
- Gifted and Talented Development
- Education of the Visually impaired

THE COURSE

This course is a compulsory course. This course is mainly on the education of Special Needs individuals. The course shed lights on what special education is all about. It draws out the nitty gritty of Special Education, including meaning, causes, historical perspective and development, characteristics and Education approaches different areas of exceptionalities.

WHAT YOU WILL LEARN IN THIS COURSE

The main aim of special needs education is to introduce its audience to basic concepts in special education with the view of developing the intellectual, moral and physical growth of an individual child.

COURSE AIM

This course is designed as an introductory course to Special Needs Education. It is to expose learners/audience to special needs children who may experience learning problems and learning difficulties as a result of disabilities or other forms of special educational needs.

The courses emphasis will be on meaning, historical perspective, causes, characteristics, identification and educational approaches to different categories of children with Special Needs. The course shed light on different categories of special needs education. Such as Education of the intellectually Retarded, Learners with communication disorders, physically and health Impaired, Gifted and Talent Development, Education of the visually Impaired, learning disabled etc.

The major goal of this course is to prepare future teachers and educators for delivery and evaluation of Education and Special Education

Programme. The course will enhance better performances of both teachers and learners.

COURSE OBJECTIVES

Students will be able to:
* Explain what Special Education is all about
* Identify the relationship between General Education and Special Education
* Identify the relevance of research studies in the field of Special Education
* Identify the importance of information communication Technology to Special Needs Education
* Identify different categories of Children with Intellectual Retarded and methods of educating them
* Identify causes and characteristics of Learners with hearing Impairment and Strategies of educating them.
* Distinguish between Neurological Impairment and muscular conditions
* Identify the characteristics of gifted and talented children
* Design an appropriate curriculum for the gifted and talented children
* Identify children with visual impairment in the classroom
* Identify the relevance of Rehabilitation to Special Needs Education

COURSE MATERIALS

Major components of the course are
1. Course Guide
2. Study Units
3. Assignment File

STUDY UNITS

Course Aims
Course Guide
Course Objectives
Course Materials

Module 1   Basic Concepts in Special Education

Unit 1   Overview of Special Education
Unit 2   Research in Special Needs Education
Unit 3   Information and Communication Technology in the
              Education of Learners With Special Needs

Module 2   Education for   the   Intellectually Retarded

Unit 1   Definition, Categories and Causes of Intellectual
              Retardation
Unit 2   Characteristics, Identification and Educational
              Method Of Teaching Intellectually Retarded Children

**Module 3   Education of The Hearing Impaired And
                Communication Disorders**

Unit 1   Definition, Causes and Classification of Hearing
              Impairment
Unit 2   Identification and Educational Placement of Hearing
              Children
Unit 3   Learners with Communication Disorders

**Module 4   Education of The Physically and Health
                Impaired and Learning Disabled**

Unit 1   Definition, Types and Causes of Physically and Health
              Impaired
Unit 2   Meaning, Causes, Identification and Educational
              Intervention for Children with Learning Disabilities

Module 5   Gifted and Talent Development

Unit 1   Definition, Characteristics and Administration of
              Gifted And Talented Children
Unit 2   Curriculum Modification for Gifted and Talented
              Students

Module 6   Education for The Visually Impaired

Unit 1   Definitions, History, Causes and Prevalence
Unit 2   Characteristics And Educational Approaches of
              Visual Impairment
Unit 3   Rehabilitation of The Visually Impaired

ASSIGNMENT FILE

In this file, you will find all the details of the work you must submit to your tutor for marking. The marks you obtain for these assignments will count towards the final mark you obtain for this course.

ASSESSMENT

There are two aspects of the assessment of the course. First are the Self-Assessment Exercises (SAEs) and other written examination. Your assignment must be submitted to your tutor for formal assessment in accordance with the stipulated deadlines. The work you submit to your tutor for assessment will account for 30% of your total course mark.

At the end of the course, you will need to sit for a final written examination of two hours duration. This examination will account for 70% of your total course mark. The examination will consist of questions, which reflect the types of exercises and tutor marked problems your have previously encountered. All areas of the course will be assessed.

HOW TO GET THE MOST FROM THIS COURSE

In distance learning, the study units replace the lectures in the conventional systems. This is one of the great advantages of distance learning; your can read and work through specially designed study materials at your pace, and at a time and place that suit you best. Think of it as reading the lectured instead of listening to a lecturer. In the same way that a lecturer might set you some reading to do, the study units tell you when to read your set books or other material, and when to undertake computing practical work. Just as a lecturer might give you, in class, exercises, your study units also provide exercises for your to do at appropriate points. Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit as how a particular unit is integrated with the other units and the course as a whole. Next is a set of learning objectives. These objectives itemize what you should be able to do by the time your have completed the unit. You should use these objectives to guide your study. When you have finished the unit, you must go back and check whether you have achieved the objectives. If you make a habit of doing this you will significantly improve your chances of passing the course. Exercise is interspersed within the units and answers are given. Working through this exercise will help you to achieve the objectives of the unit and help you to prepare for the assignments and examinations.

The following is a practical strategy for working through the course.
1.   Read this course guide thoroughly
2.   Organize a study schedule. Refer to the 'course content', for more details.
3.   Once you have created your own study schedule, do everything you can to stick to it. The major reason that students fail is that they get behind with their course work. If your get into difficulties with your schedule, please let your tutor know before it's too late.
4.   Turn to unit 1 and read the introduction and the objectives for the unit.
5.   Work through the unit. The content of the unit itself has been arranged to provide a sequence for you to follow.
6.   Review the objectives for each study unit to confirm that you have achieved them. If your feel unsure about any of the objectives, review the study materials or consult your tutor.
7.   When you are confident that you have achieved a unit's objective, you can then start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.
8.   When you have submitted an assignment to your tutor for marking, do not wait for its return before starting on the next unit. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments.
9.   After completing the last unit, review the course and prepare yourself for final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives listed on this course Guide.

SUMMARY

Special Education is intended to provide you with sound and adequate knowledge about learners with special needs. Special Education is designed to help the exceptional children (both gifted and disabled individuals) in making the maximum use of their capabilities in order to contribute their quota to the socioeconomic development of their country. In order to achieve this, you have been exposed to: Basic concepts in Special Education. You have also been introduced to different categories of special needs children. Upon completion of this course, you will be equipped with adequate knowledge and skills for better service delivery. It expedient that you should try to apply the knowledge and skills you have acquired in this course to enhance and facilitate better job performance in your chosen career.

CONTENTS

MODULE 1 BASIC CONCEPTS IN SPECIAL EDUCATION

Unit 1 Overview of Special Education
Unit 2 The Place of Research in Special Needs Education
Unit 3 Information and Communication Technology in the Education of Learners with Special Needs.
Unit 4 Current Issues in Special Education

UNIT 1 OVERVIEW OF SPECIAL EDUCATION

Unit Structure

1.1 Introduction
1.2 Learning Outcomes
1.3 Main Content
    1.3.1 Definitions
    1.3.2 Historical Perspective and Development
    1.3.3 General Education and Special Education
    1.3.4 Relationships between Special Education and General Education
    1.3.4 Terminologies in Special Education
    1.3.5 Individualized Education Programme
1.4 Summary
1.5 References/Further Readings/Web Resources
1.6 Possible Answers to Self-Assessment Exercise(s) within the content

1.1 Introduction

Persons with special needs are found in all societies of the world. Within and outside our different institutions of learning we find learners with special needs that require unique responses to their education. These categories of children cannot benefit from the conventional classroom because they require special education and related services if they are to realize their maximum potential. These special need children may have learning or attention difficulties, intellectual retardation, behavioural problems, physical and health related problems, disordered communication, hearing impaired and visually impaired.

1.2   Learning Outcomes

By the end of this unit, you will be able to:
- define special education in your own word
- recount a brief history of special education.
- identify the relationship between general education and special education.
- distinguish area of differences and relationships between general education and special education.
- itemize and explain terminologies in special education.

1.3   Main Content

1.3.1 Definitions

- Special education is that type of education that is specially designed to meet the uncommon needs of exceptional students.
- It is the education of learners with special needs in a way that addresses the learners' individual differences and needs.
- Special education is the education specially designed to suit the special needs children who may experience learning problems and learning difficulties as a result of disabilities or handicaps or other forms of special educational needs (Obani 2004).
- Therefore, special education is designed to help the exceptional children (both the gifted and the disabled individuals) in making the maximum use of their capabilities in order to contribute their quota to the socio-economic development of their country.

Cheerful School Children with Special needs sitting at a desk in a classroom

Read other definitions of Special Education here

1.3.2 Historical Perspectives and Development

Special education has passed through different phases. These phases or stages could be categorized as: The Pre-Christian era, the Christian era and the post Christian Era.

The Pre-Christian Era: This was before the advent of Christianity. This period could be referred to as the **"Dark Ages"**. During this period children with Special needs were maltreated, dehumanized and ostracized. It was largely the epoch of ignorance and superstition. It was the period when some of the handicapped were used as royal clowns, jesters or gladiator fighters to entertain the nobles among them. Further, some persons with disabilities were locked up in asylums believing they were demon possessed.

In the pre-Christian era, the city/state of Sparta did not have any programme for persons with disabilities, they were either eliminated or were exposed to harsh and unfriendly weather to die at the top of mount Taygetu instalmentally.

Further, in Ancient Rome, Balbus Balaesus the Stutterer, was caged and displayed along the Appian way to amuse travellers who thought his speech was funny.

In the pre-Christian era in Nigeria, special need children were not catered for. No special education provision was made for them.

The Christian Era: It was the period that emphasis was laid on love and charity. Christianity laid more emphasis on love for fellow human beings. The content of love for one's fellowman was evidenced by the words in "as much as ye had done it unto one of the least of these brethren ye have done it unto me". During this period the inhuman treatment towards persons with disabilities began to fade.

Post Christian Era: The formal education of special needs children began to see the light of the day primarily from the early 1800s. Most of the originators of special education were European physicians.
The early years of special education witnessed the remarkable contributions of the likes of Jean Itard, Edward Seguin, Valentine Howe, Thomas Hopkins Gallaudet, Samuel Grialey Howe and a host of others. In Nigeria, the formal Education of special need children dated back to 1950s when the first special school was established in Gindiri in the

present Plateau State by Sudan Interior Mission. However, our people had ways of taking care of persons with special needs among them before the advent of Western education. The missionaries played vital roles in the establishment of special schools in Nigeria. For example, Pacelli School for the blind was established in 1962 in Lagos by Archbishop Taylor of the Catholic Church. The Wesley School was established by the Methodist Church in Surulere Lagos in 1958 and a host of other special schools began to spring up across the nation.

Read the details by clicking **here**

Let me ask you this, do you think that as we are talking about special education, will it not be wise to talk about general education? Here we go!

1.3.3 General Education and Special Education

The aim of education is to develop the intellectual, moral and physical growth of an individual child. While special education aims at dealing with children with special learning problems/difficulties and needs. Obani (2004) states that Special Education looks beyond the ordinary methods and provision of the conventional school system in order to tackle the problems affecting the handicapped child's ability to learn effectively. Special education is **"Child Centred** and not **Subject Centred".**

These pictures will throw in more light on what the content is all about.

General education teacher standing in front of the class teaching.

Special education form of learning.

Though, the relationship between general education and special education became a matter of concern to policy makers and researchers in the 80s. but through 1990s reform proposal gave birth to inclusive school movement where special need learners will be educated in the class with their non disabled counterparts.

1.3.2 Relationships between General Education and Special Education

You can now see from the pictures above that both forms of learning centered on the development of the child in order to maximize his/her potentials. The relationship between general education and special education became a matter of concern to policy makers and researchers in the 80s. but through 1990s reform proposal gave birth to inclusive school movement where special need learners will be educated in the class with their non disabled counterparts. Their relationship cannot be overemphasized hence, General Education is the education for all and quite inclusive to the development of man to the fullest. So also, Special Education is also designed to bring up children with special needs to develop their full potentials. This is to say that, since there is ability in every disability, Special Education feels the gap. Click on this link for further readings on this. https://www.teachervision.com/teaching-strategies/collaboration-between-general-and-special-education-teachers

1.3.5 Terminologies in Special Education

Special education has its own terms registers/jargons. Some of these registers are used interchangeably.

Disability: Disability and Handicap are sometimes used interchangeably. A person is disabled if a person loses a part of his body and this does not prevent him from carrying out the functions expected of the lost part.
Handicap: A person is handicap if he/she loses part of his body and this has prevented him from carrying out the functions expected of his/her lost part.

Inclusive Education: It is a system of education designed to restructure General Education schools and classrooms to accommodate all students including learners with special needs.

1.3.6 Individualised Education Programme

Children have individual differences as a result of this, the rate at which individuals learn vary. This is also applicable to children with special needs. Individualized instruction is a kind of educational programme that is specifically designed to meet the individual child's specific needs, problems, challenges and special educational needs.

Individual Educational programme must include current educational performance, instructional goals, special education and related services, age of the learners' criteria and procedure for determining that the instructional objectives are being met. It is pertinent to note that for

educational programme to be appropriate for each learner with disability, it must be individualized. Therefore, the tools that offer appropriate education to learners with disabilities are:

-        The Individualized Family Service Plan (IFSP) – for infants.
-        The Individualized Education Programme (IEP) – Pre-schoolers through high school learners.

Self-Assessment Exercises 1

Attempt the following questions in not more than 5 minutes.

1. Education designed to meet with the needs of exceptional children is called
   A. General Education
   B. Inclusive Education
   C. Special Education
   D. Gifted Education

2. _____ historical era was laid on peace and love
   A. Pre-Christian
   B. Post-Christian
   C. Christian
   D. Dark Age

3. The formal education of special needs children began to see the light of the day primarily from the early
   A. 1700
   B. 1800
   C. 1900
   D. 2000

1.4   Summary

In this unit, we have learnt about basic concepts in Special Education. We also discussed the definitions of Special Education. Further, we learnt about the Historical perspective and development of Special Education. We shed light on the differences and relationship between General and Special Education. Certain concepts in Special Education were also discussed. Such concepts as Disability, Handicap, Inclusive Education and Individualized Education Programme.

1.5   Reference/Further Reading /Web Resources

Obani, T.C. (2004). Handicap, Disability and Special Education. What Parents and Teachers want to know? Ibadan: Book Builders.

Possible Answers to Self-Assessment Exercise(s) within the content

Online   Books   are   available.   Click   on   this   link: https://laverne.libguides.com/c.php?g=34798&p=221662

Find the attached link for the video on special needs education.

Oparaduru, J. O. (2022). Video on Special Education https://youtu.be/GqW5_A2NP14

https://www.youtube.com/watch?v=GqW5_A2NP14

1.6 Possible Answers to Self-Assessment Exercise(s) within the content

Possible Answers to SAEs

1.   Special Education
2.   Christian
3.   1800

UNIT 2   RESEARCH IN SPECIAL NEEDS EDUCATION

Unit Structure

 2.1   Introduction

There is no doubt that research projects have contributed a lot to the development and progress made in special need education. There are still a lot to be done in the field of research in Nigeria; in order for special needs education to keep abreast with counterparts in developing nations of the world.

 2.2   Learning Outcomes

By the end of this unit, you will be able to:

- Define research in your own words.
- Identify the types of researches
- Identify the relevance of research studies in the field of Special Education

 2.3   Main Content

2.3.1 Meaning & Definition

The word ***Research*** is made up of two syllables 'RE' and 'search'. Literally, 'RE' means to repeat while 'search' means to look for something. Various scholars may define research in various ways for example Aborisade (1997) defines research as a systematic thinking

strategy which involves a planned and formalized collection, analysis and interpretation of data for problem solving.

Fawole, Egbokhare, Itiola, Odejide and Olayinka (2006) agree that there can be many definitions of research. I have highlighted only three from their list of definitions.

1. Research is an endeavour to study or obtain knowledge through the use of systematic approach with the intent of clarification.
2. Research is a curiosity-driven activity that has the purpose of discovery and advancement of knowledge (Basic Research).
3. Research is a systematic investigation including research development, testing and evaluation, designed to develop or to contribute to generalisable knowledge. From the above definition one can deduce therefore, that research is systematic, it is designed to obtain knowledge and the results of a research are verifiable.

There are types and mode of research. The types of research are basic and applied. Basic, pure or academic research gives the people the opportunity of gaining new knowledge and developing new theories in a discipline while applied research is directed at an existing problem. It finds solution to practical problems in education. Research modes can be in form of collaboration, contract sponsored and consultancy. Collaborative research studies are carried out by two or more individuals or organizations. Find here further readings on Educational Research here

Contracted Research
An industry or organisation can request an individual to carry out research project for them. It is a joint effort.

Sponsored Research
Grants can be given to individuals or an individual can apply for grant to carry out a research study. Sponsored research studies are either basic or strategic but the outcomes are commercially oriented.

Consultancy
Tapping the skills and expertise of a specialist on a particular project.

2.3.2 Special Education and Special Needs Education

Special education and special needs education are used interchangeably. There are some individuals who can learn very fast, there are those who are slow learners. There are others who have difficulties in learning. There are others who have special learning needs that occur as a result of sensory, intellectual psychological or sociocultural deficiency. There are others that are precocious and prodigious. All the aforementioned need special education in order to function maximally.

What is Special Education?
Special Education means specially designed instruction that meets the unusual needs of exceptional students. Special materials, teaching or equipment and/or facilities may be required (Hallahan and Kauffman, 2003).

Obani (2004) sees Special Education as the education that is concerned with children who have been adversely affected to a greater extent, by one or more of these factors. Special Education deals with children with special learning problems, difficulties and needs. It applies special methods and uses special equipment that takes the special problem of the children into consideration.

From the above, one can deduce that Special Education is designed to meet the needs of persons with special need. Special needs education merely entails simple modifications, adaptations, adjustments innovations and management of the curriculum, methods and materials in addition to the other resources and practices of regular schools to fit and meet the special learning needs of those who present different forms of disabilities and learning difficulties (Obani, 2006).

2.3.3 Relevance of Research in Special Needs Education

Research is meant to better and improve the learning and educational standard such as in teaching, classroom administration, psychological assessment, child growth and development.

Adebiyi (1998) identifies the relevance of research in special education in the following ways. These are to:

(a)   Assess the effectiveness of a programme in Special Education.
(b)   Find possible effect of taking certain decision.
(c)   Find solution to practical problems that have been discovered in Special Education.
(d)   Evaluate the authenticity of certain concepts in Special Education.

Unarguably, research studies have contributed in no small measure to improvement and progress made in special needs education over the years. Over the years, in the education for the intellectually retarded for example, it was through research that it was realized that physiological method, play therapy etc. were adopted as effective methods of teaching the intellectually retarded.

It was also through curiosity and passionate investigation that Valentine Hauy discovered in 1771 that the blind could read and write by making

use of their fingers. Not only this, it is through research efforts that dog was discovered useful in guiding the blind if well trained.

Through systematic investigations, it has been found out that the blind can study mathematics and sciences up to the university level, their disability not withstanding. It is obvious that the blind can manipulate computer and access the internet conveniently.

In the same vein, research has revealed to us that there are classes and degree of giftedness and how they can be taught. Even in our days, through research, it has been found out that inclusive education is beneficial to children with special needs.

It is also through various research studies that nomenclature have been changed in Special Education. Also, through careful and extensive investigations novel facts are discovered about nature and manifestations in disability, leading to shift in the existing perspectives on issues in special education. This is exemplified in the changes made to the nomenclatures such as handicapped to disability, intellectually and not mentally 'retarded' etc.

Related to the above, Kolo (1997) believes that research improves performance and efficient practices in Special Education certain problems are solved in the education for the visually handicapped persons through research. For example, technological innovations for meeting psychological, mobility, orientation and educational needs of the visually handicapped person. Further readings can be seen here

2.3.4 Barriers to Research Activities in Special Education

There are a lot of challenges to research activities in Special Education and those challenges are highlighted below:

Culture and Tradition
In Africa, there are a number of cultural taboos and traditions that are inimical to the success of research in Special Education. Traditions believe "as it was in the beginning, so it is and so shall it be". Culture and tradition make things to be static and stagnant. In some cases, it does not give room for flexibility.

Attitudinal Issues
There is no doubt that one's attitude determines one's altitude. The lackadaisical or non-challant attitude towards research activities in Special Education is also a factor. Further, in their race to catch up with the developed countries overnight many developing countries fail to understand.

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- The nature of the research enterprise
- The long gestation periods of many research activities: the products we see on shelves in markets have taken years to get to the public.
- The expensive nature of research
- The speculative nature of research
- The need for continual and uninterrupted research engagement as strategy for sustainable development.
- The imperative of seeing research as a veritable strategy for sustainable development (Egbokhare, Olayinka, Taiwo, Alonge and Obono, 2006).

It is not a National Interest. Many developing nations of the world have focus and give priorities to research and as a result; researchers are encouraged and motivated. But this is not so in some countries of Africa including Nigeria.

Personnel Constraints
Many young researchers do not show interest in research studies. Possibly because of the cost implication of the research work. Also, because the cost of publishing in some scholarly international journals which is exorbitant and unaffordable.

Ethical Issues
There are ethics peculiar to various fields. Research is of no exception. Many people are in the field of research but never bother to obey the rules of the game. Data are manipulated and figures are falsified; results of researchers are not reproducible simply because, the rules of research studies have been violated.

Inadequate Funding
Researchers and research works are not well funded. Research studies in the field of special education are capital intensive. Equipment will be needed; tests will be adapted where necessary when it is not available. Some of the research studies in Special Education take years before they can be completed.

Inadequate Data
This is a challenge to research studies in Special Education. There is no particular place that we have as a databank. For instance, the statistical number of persons with disabilities is not available in the country. There should be the urgent need for census of persons with disabilities in Nigeria.

2.3.5 Strengthening Research in Special Education

In order to put research in Special Education in the bridal place, it deserves those certain factors must be considered:

Research Factors
The researcher must have self-conviction. He/she must know what, how and why he/she is doing what. He must have a focus. He must be skillful on how to carry out research projects.

Government Factor
There should be proper funding on the part of government, various foundations, philanthropists, organizations, individuals and non-government organizations.

Societal Factors
There should be public enlightenment on research. Some of the parents of persons with disabilities in some cases hide their disabled child at home and will not tell the truth whenever they are to fill any questionnaire. Through seminars, workshops and conferences society can be delivered from the demon of culture and tradition in respect of barriers to research studies.

Documentation Factors
There should be proper and adequate documentation of research works. Workshops should be organized on how to keep document and various records.

Note: You can see this write up to broaden your scope on the Special Education during the era of Covid-19 Pandemic by Oparaduru (2021) Click here

Self-Assessment Exercise 1

Attempt the following questions in not more than 5 minutes.

1. Education designed to meet the special needs of learners is called
   A. Inclusive Education.
   B. General Education
   C. Special Education
   D. Primary Education
2. The systematic thinking strategy which involves a planned and formalized collection, analysis and interpretation of data for problem solving is termed _____

3. All these are constraints of scientific research except

A. Personal constraints B. Ethical issues C. Inadequate funding D. Adequate documentation

4. Do you subscribe that research has contributed in developing special education?

A. Yes B. Undecided C. No

2.4   Summary

In this unit, we have learnt about various scholarly definitions of research. We also learnt about types and mode of research studies. We discussed the relevance of research work to special needs education. Further, we itemized various challenges and constraints to research activities in special education.

We have learnt about various definitions of research. Research could be defined as a systematic thinking strategy which involves a planned and formalized collection, analysis and interpretation of Data for problem solving.

2.5 References/Further Readings/Web Resources

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Obani, T.C. (2004). *Handicap, Disability and Special Education. What Parents and Teachers want to know*. Ibadan: Book Builders.

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2.6   Possible Answers to SAEs

1.   Special Education
2.   Research
3.   Adequate documentation
4.   Undecided

UNIT 3   INFORMATION AND COMMUNICATION TECHNOLOGY IN THE EDUCATION OF LEARNERS WITH SPECIAL NEEDS

Unit Structure

3.1   Introduction

Technological revolution has transformed many aspects of our life, including how we communicate, how we spend our free time and especially how we work. As the life and work place demands have changed as a result of this technological revolution, so have conceptions of the successful adults and the relevant educational experiences they should encounter while attending school (Siddiqui, 2004).

Due to advancement in technology, teaching and learning process have taken a new dimension now. The situation has changed from old order of textbook consultation by teachers for onward delivery in the classroom. Through technology, both teachers and students alike can now interact with the internet to update their knowledge on any issue in different disciplines.

3.2   Learning Outcomes

By the end of this unit, you will be able to:

- Define Information Communication Technology
- Identify the relevance of Information Communication Technology to Special Needs Education.

3.3   Main Contents

3.1   Definition

Information technology is a term that encompasses the notion of the application of technology to information handling which include: generation, organization, storage, retrieval and dissemination of information (Maduagwu and Ajobiewe, 2006). Information Communication Technology (ICT) involves telephones, cables, television, satellite communication, computers internet and G.S.M. The use of information communication technology cuts across all disciplines and for all segments of the society (either the young or the old, male or female).

Information Technology (IT) was defined by the Information and Technology Association of American (ITTA) as "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware". It deals with the use of electronic computers and computer software to convert, store, protect, process, transmit and retrieved information securely.

UNESCO (2002) defined ICT as the range of technologies that are applied in the process of collecting, storing, editing, retrieving and transfer of information in various forms. The definition implies that in an effective teaching and learning, relevant information will go a long way in the achievement of stated goals and objectives. One dominant aspect of Information Communication Technology (ICT) which has revolutionized the world is the INTERNET

3.2   The Internet

The internet is a world wide "network or wireless" that allows people to communicate and interact with one another regardless of physical proximity. The internet was initially created to help foster communication among government sponsored researches. In the last few decades, it grew steadily to include educational institutions, government agencies, commercial organisations and international organisations. It is undergoing a phenomenal growth with connections increasing faster than any other network ever created. The internet has made it possible for the world to become a global village connecting people from different geographical locations (Ogundele, 2008).

3.3   The uses of ICT in Education

ICT is a generic term referring to technologies which are used for collection, storing, editing and passing an information in various forms (SER, 1997). Effective educational research cannot take place without passing of relevant information through the teacher to the learners and vice versa. A personal computer is the best-known example of the use of ICT in Education, but the term multimedia is also being frequently used. Multimedia can be interpreted as a combination of data carriers, for example video CD-ROM, Floppy disc and internet and software in which the possibility for an interactive approach is offered (Smeets, 1996).

ICT can be used in education in the following ways as highlighted by SER, 1997; and Pilot, 1998):

1.   **ICT as an object.** This refers to learning about ICT. Mostly organized in a specific course. What is being learnt depends on the type of education and level of the students. Education prepares students for the use of ICT in education, future occupation and social life.
2.   **ICT as an Assisting Tool:** ICT is used as a tool for example while making assignment, collecting data and documentation, communicating and conducting research. Typically, ICT is used independently from the subject matter.
3.   **ICT as a Reference to ICT Medium for Teaching and Learning:** This is as a tool for teaching and learning itself, the medium through which teacher can teach and learners can learn. It appears in many different forms, such as drill and practice exercises in simulations and educational networks.
4.   **ICT as a Tool for Organization and Management in Schools:** The main thrust of the use of ICT in this paper focuses on the Special Needs Education. This is the education that is specially designed to meet the needs of persons with one form of handicapping condition or another and the gifted and talented individuals. Obaje (2007) sees special education as an area within the frame work of general education that provides teachers with the training for special needs children who cannot benefit from regular classroom setting. Special needs education is also seen as "the education that is given in the regular classroom teachers sometimes with the collaboration of specially trained teacher to all children regardless of their physical, sensory and psychological differences.

3.4   Categories of Children with Special Needs

Categories of children with special needs include the following:
-         Children with learning disabilities
-         Children with intellectual retardation
-         Children with behaviour disorders
-         Children with hearing impairment
-         Children with visual impairment
-         Children with physical impairment
-         Children with communication disorders. Modern communication
          and children with Special Needs.

Modern communication technology has introduced a lot of devices like computers satellites, film slides, fax, video-disc, cellular etc. which have been noted to facilitate the teaching-learning processes of children with special needs. Computers are tools for teachers and students.

They can be used for creation of individualized and collaborative instruction and can manage and generate instructional research and administrative data. Computers are now used by everybody irrespective of individual disposition. Children with special needs can use computer to have access to various subject areas (Stephen black Hurst and Magliocca, 1988).

The Gifted and the Creatively Talented
The computer is a learning, productivity and simulation tool which the gifted and talented can use for explanatory work to control their learning environment and performance. Learning programme is on creative activity they can do simulation games and science experiment. The "slides tape show" reported by Frith and Reynolds (1993) provided creative activities for them to select a topic for show, write the scripts, develop graphics, make the slides, develop audio music at the beginning and at the end of the presentation and finally integrate the slide with the audio component to ensure the presentation of the show. For the group also, the computer has been used to facilitate independent study.

Children with Specific Learning Difficulties
Some children with learning disabilities have specific learning difficulties in reading writing, spelling or listening while others may have difficulty in calculation, reasoning or some form of perceptual problems. Usually some deviant behaviours like impulsivity, hyperactivity, distractivity, etc. are exhibited. The only common educational characteristics is that they show a discrepancy between their potential to learn and their actual performance of attainment.

Computer for children with learning difficulties is reinforcement and can provide recreational and vocational opportunities. With this group, computer has been used in designing programmes to avoid learning problems. Tape recorded materials have been used to address specific deficit. Caption films have been utilized in teaching this category of special needs children. Computer has also been used to teach complex skills through computer assisted instruction and simulation (Carnine, 1989). This assertion of Carnine can also be buttressed by the opinion of Vander Molen, Van Lult, Van der Molen, Klugkist, Jongmans (2010) by their expositions on the relevance of ICT in teaching children with learning disabilities. More of their expositions can be seen [here](#)

Children with Behaviour Disorders
There are children with behaviour disorders. They have problems of attention span, retention deficits and lack of motivation. For these categories of children, computer can meet their needs in terms of:

-       Reduction of distraction and irrelevant stimuli
-       Prompts and cues
-       Instruction in small manageable steps
-       Specification and repetition of task directions.
-       Practice for over-learning
-       Immediate and frequent reinforcement
-       Feedback in a non threatening manner.

These children have also been taught how to operate the micro computers from picture prompts (Frank, 1988) thus facilitating instruction. Improved communication skills have been noted through taped-words treatment.

Children with Hearing Impairment
For children with hearing impairment, a wider world of communication has been opened to them through the use of telecommunication devices which allow them to receive messages through videotaped presentations. The speech synthesizer that permits children with hearing impairment to see in prints what others are communicating to them. messages are displayed on the screen for them to see and read. Deaf net is another computer-based telecommunication network that leads to expand the deaf potential for social interaction with them and the hearing persons of the world. This system is like an electronic post office with the private mail boxes into which messages are saved until collected by the owner.

Children with Visual Impairment
Hallahan and Kauffman (1988) noted that in recent years a minor explosion in communication has resulted in electronic devices for use in the teaching-learning process of children with visual impairment. For example, the optacon converts print materials to a tactile image. It can be

adapted to read a computer screen, an electronic calculator or a typewriter. The Kurswell reading machine converts prints into speech when material is placed face down on a scanner, the individual hears the material being "read" by an electronic voice, at a level as fast as human speech. The speech plus calculator or talking calculator displays information visually and speaks. It performs basic operations such as addition, subtraction, multiplication and division as well as computer square roots and percentages. Computer has also been used to increase the level of interaction between children with visual impairment and the sighted world (Oshon, 1983). Computer with low vision and devices assist mobility of this category of special needs people. Computer with synthetic speech (Duxbury word processor) help in pronouncing texts for them. The computer can tell children with visual impairment about other information displayed on the screen. These children can also use the electronic communication system (network) vis-à-vis braille, to send information to one another in braille. Closed Circuit Television. Computer helps to display typed information in large letters. These children can also use the computer to change the background of the text in different contrasting colours.

Children with Physical Impairment
Many of such children do have birth in injuries, illness or accidents that affect their range of motion, physical strength co-ordination, communication and interaction with instructional materials (MC Cormic and Haring, 1986). The physical problem of these children interferes with their ability to participate fully in classroom instructional programmes (Step Black Hurst and Maglloca, 1986). Computer can break these barriers imposed by physical impairment. For example, children with cerebral palsy can use keyboard (with holes) to access the curriculum. Mainstreamed special needs children with paralysis, amputees', etc. may use a rubber tipped. Stick to operate a keyboard. Those who are unable to use a mouth stick or headwind may operate switches with different parts of their bodies over which they have control. Computer has been used to improve communication skills in children with cerebral palsy (Gall Loke, Jones, Isantis Vogel and White, 1989).

Children with Communication Disorders
These are children who experience difficulties in their communication skills, which exert significant impact on their daily lives. Some of these speech and language disorders include: stuttering, delayed speech, articulation disorders, voice disorder and aphasia. Head pointer attached to a computer can be useful to them. Speech synthesizer provides children with communication disorder access to social and economic integration.

Children with Intellectual Retardation
Children with intellectual retardation are a group of special needs children with very low intelligence that is below the average and they tend to have maladaptive behaviour. There are three groups of children with intellectual retardation (the educable, the trainable and the totally dependent). The use of computer for any of these groups vary according to their needs. Generally, computers are used to enhance the education of the intellectually retarded children in the following ways:
- Reduction of distraction and irrelevant stimuli
- Specification and repetition of task directions, presentation of prompts and cues
- Presentation of small segment and meaningful instruction (task analysis)

All summary of all the uses of computer with appropriate programming has been suggested to include the following:
- Provides a multisensory approach to learning
- Used to teach a wide range of subjects
- Gives a variety of reinforcement
- Provides continuous encouragement.
- Facilitates active participation in the learning process.
- Used with diverse students' populations.
- Provides direct individualized interactive instruction.
- Allows a student to learn at his own rate.
- Remembers student responses
- Provides instant feedback
- Provides remediation, development or enrichment, depending on the need of the learners.
- Provides repetition; drill and practice in a meaningful manner.
- Provides diagnostic and prescriptive information to the teacher used as an ideal management and retrieval system for students' records assessment scores, students' objectives and IEPs;
- Frees the teacher from hours of repetitions paper and pencil activities (Handford and Bloanc, 1981; 54).

Self-Assessment Exercise 1

Attempt the following questions in not more than 5 minutes.
1. _____involves telephones, cables, television, satellite communication, computers internet and G.S.M.

A. Information community Technocrats
B. Information Communication Technology
C. Information Communication Technoloogy
D. Information comunicationTechnology

2. Children with _____ have problems of attention span, retention deficits and lack of motivation.

A. Visual impairment

B. Behaviour disorder

C. Mental retardation

D. Attitudinal challenge

3. There are _____groups of children with intellectual retardation

A. one

B. two

C. three

D. four

 3.4   Summary

In this unit, we learnt about information technology as the study, design, development, implementation, support or management of computer-based information systems, particularly software application and computer hardware. We also learnt about the uses of ICT in Education and Special Needs Education

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3.6 Possible Answers to SAEs

1. Information Communication Technology
2. Behaviour Disorder
3. Three

UNIT 4   CURRENT ISSUES IN SPECIAL EDUCATION

Unit Structure

4.1   Introduction
4.2   Learning Outcomes
4.3   Main Content
         4.3.1 Special Education and Reform Issues
         4.3.2 The Nomenclature Issue
         4.3.3 Disability Classification
         4.3.4 Classroom Environment
         4.3.5 Special Education Teachers
         4.3.6 Funding Issues
4.4   Summary
4.5   References/Further Readings/Web Resources
4.6   Possible Answers to Self-Assessment Exercises within the content

4.1   Introduction

The adage "there are two sides to every story" applies to special education. In the early years of special education, there was one clearly defined goal - an appropriate education for students with disabilities. Parents, professionals, and students with disabilities rallied together to attain this right. Having secured this goal, the allies splintered into numerous advocacy groups, each fighting for different issues in special education. Issues such as school reform, full inclusion, standards assessment, and disability classification can be viewed not only from at least two perspectives, but from many variations or degrees of each.

4.2   Learning Outcomes

By the end of this unit, you will be able to:

- Differentiate between Special Education and the Regular form of Education
- List the different categories Persons with Special Needs State the different type of programmes available to persons with Special Needs.

4.3   Main Content

4.3.1 Special Education and Reform Issues

School reform has been a burning issue since the early 1980s, but special education was not often included in discussions of reform until about the turn of the twentieth century. In the early years of the twenty-first century, the following are the issues involved:

Full inclusion
In full inclusion, all students - regardless of disability, health needs, academic ability, service needs, and, often, preference of parent or student - are educated full-time in a general education class in their neighbourhood school (the school they would attend had they no disability). In this model, the child receives special education support services in the general education classroom. Full inclusion requires either a team-teaching approach or consultation of the regular classroom teacher with a special educator. In team teaching, a classroom will have both a general education teacher and a special education teacher equally sharing the responsibility to teach the whole class. In consultation, a special education teacher works with many general education teachers, meeting with them and answering questions as needed or on a regular schedule.

Proponents of full inclusion believe that pulling a child out of the classroom to provide special education services or placing the child in a self-contained classroom or special school is inherently unfair and inferior and, therefore, not just. They also argue that both the students with disabilities and their peers benefit from full inclusion, an argument that often places greater emphasis on social interaction than academic achievement.

Full continuum of placements
Proponents of a full continuum of alternative placements, noted that since 1975 the law has mandated a continuum of placements including placement: (1) full-time in a general education classroom; (2) part time in a special education resource room; (3) fulltime in a special education self-contained classroom;(4) in a separate special education school; (5) at a residential facility; and (6) in the hospital. They agree that full-time placement in general education is appropriate for some students, but not for every student with disabilities. Proponents also argued that in accordance with the education policy, each student should be assessed and placed individually. Many students with disabilities commonly need a more structured and clearly defined environment, either academically or behaviourally, than a general education classroom can provide. Also, students with severe emotional or behavioural disabilities can infringe on

other students' education in a general education classroom by either monopolizing a teacher's attention or by placing peers and teachers in physical danger. While believing that students should be educated in the least restrictive environment with nondisabled peers to the maximum extent appropriate, proponents of the continuum also believes that it is immoral and illegal to place every student in the exact same placement regardless of individual needs.

4.3.2 The Nomenclature Issue

Controversies surrounding labels and categories of disabilities are a major concern to parents and professionals. One issue is whether students should be labelled at all. Proponents of labels such as *learning disabled, deaf,* or *autistic* are of the opinion that these labels provide a common ground for professionals, researchers, and parents to discuss practices and share knowledge about particular disabilities. Labels help teachers and administrators prepare for and provide a student with an appropriate education. Schools can better manage their budgets if they can explain what they normally do with the funds already provided for them and why they still need more funds.

Opponents of labels argue that labels permanently stigmatize the student. They believe that teachers and administrators lower their expectations of a labelled student, creating a vicious cycle in which the student is given fewer and fewer challenges and falls further behind what is expected of the child. An extension of the labelling issue is categorical versus non categorical labelling. Categorical labelling specifies a disability based on categories in the national policy of education. Non categorical labelling tags a student as disabled or developmentally delayed without specifying the precise disability. Non-descriptive labels can provide educators and parents additional time to observe and evaluate the child before making a decision on disability type. Though this can help avoid mislabelling, the benefits of categorical labelling are lost.

4.3.3 Disability Classifications

Some disabilities can be measured and defined objectively, and thus are easily identifiable. If a child is classified as blind, there is usually agreement about what blindness means and whether the child qualifies for special education or other services. However, many disabilities are not easy to identify and label. Judgemental categories such as learning disability, intellectual disabilities, emotional disturbance, autism, and giftedness require professional judgement and subjective analysis. Severe and multiple disabilities, though often easier to identify, also create controversies because judgement is required to distinguish the level of disability (mild, moderate, or severe).

Learning disability: The majority of students categorically labelled have learning disabilities (LD). This is ironic because LD is one of the most difficult disabilities to define. Some individuals believe that LD is simply a social construct for those students who have not had adequate instruction. Another concern is that the policy's definition of LD describes what LD is not, rather than what it is, leaving localities with the task of finding an appropriate definition for it. Most people define LD using a discrepancy between the student's actual achievement and the student's presumed ability or IQ. The problem is that not all localities use the same discrepancy standard or the same tests to measure achievement and ability and discrepancy scores have inherent limitations.

Intellectual Disabilities: Intellectual Disabilities (ID) is identified by below average intellectual ability and poor adaptive behaviour that is pervasive in all areas of life. Intellectual ability and adaptive behaviour can both be ambiguous, as different tests yield different intelligence quotients and assessment of adaptive behaviour requires subjective judgment. A disproportionately large number of children from minority populations and low socioeconomic status are identified as having intellectual disabilities, giving rise to the argument that identification of intellectual disabilities is biased (too many African-American and Latino students and too many poor students are identified, but too few children of Asian descent are identified).

Emotional disturbance: Emotional disturbance refers to severe and protracted difficulties in relationships with other people. Controversies abound regarding who should be included in the category of emotional disturbance (ED). The policy of education excludes from ED students who are socially maladjusted but not emotionally disturbed, but it does not define social maladjustment. Confounding the problem is another clause describing ED as "an inability to build or maintain satisfactory relationships with peers and teachers," which can be interpreted to mean social maladjustment. Thus, the language of the law seems self-contradictory. Another issue in ED is disagreement on the actual number of students with this disorder. Many estimates based on prevalence studies range from 6 to 25 percent of the student population, but less that 1 percent of the school population has been identified as having ED for special education purposes.

Autism: Autism is a pervasive developmental disability affecting approximately one in 500 children. Its onset is noted before the age of three years. Professionals find it hard to agree on a definition. One of the main controversies in definition involves the closely related syndromes of Asperger's and Pervasive Developmental Disorder (PDD). There is great confusion and disagreement as to whether these are separate disabilities

or different levels of severity of autism. Causes as well as the best treatments are also disputed for each.

Attention deficit disorder and attention deficit hyperactivity disorder
Attention Deficit Disorder (ADD) and attention deficit hyperactivity disorder (ADHD) have always been controversial. One reason for this is that the characteristics of ADD/ADHD, including careless mistakes on school work, forgetting daily activities, fidgeting with hands or feet, or talking excessively, can describe an average child. What makes a diagnosis of ADD/ADHD difficult is determining whether these characteristics are beyond normal for the student's age and have become a disability. In fact, some professionals argue that ADD/ADHD does not exist and that the label is used haphazardly on students who simply exhibit inappropriate behavior and a lack of discipline. Furthermore, IDEA does not acknowledge ADD/ADHD as a separate category but includes it under "other health impaired" (OHI). There is also a growing concern that too many children are being medicated for ADD/ADHD.

 Gifted and Talented: Gifted and talented are the opposite of disabilities, but some, if not all, of the same issues discussed previously apply (e.g., stigma of identification, judgment in assessment). Opponents of special programs for gifted and talented students argue that separating them from their non gifted classmates is elitist and that *all* students should be exposed to a superior, highly challenging education. A disproportionately high number of Caucasian and Asian students are identified as gifted, while a disproportionately low number of African American and Hispanic students are found eligible for gifted programs. Proponents of special education for gifted students believe that these students need a special curriculum. Gifted students who are asked to work below their ability level or tutor their less gifted peers become bored and lose motivation. Identifying gifted students is also difficult because there is not one universally accepted definition, nor is gifted a category acknowledged under the law. The decision to provide gifted education and to determine what qualifies a student as gifted is often a local responsibility.

3.3.7 Severe and multiple disabilities

Compared to other conditions, there is less uncertainty in the identification of students with severe and multiple disabilities (SMD). Increased numbers of children identified as having SMD, however, is a fairly new trend in special education. Advances in medicine and technology are helping more children than ever before survive serious medical emergencies and severe injuries. This increase has spurred changes in special education and has placed new demands on personnel and the physical environment. These children often need assistive and medical technology in the classroom, as well as personnel knowledgeable

about this equipment. Some of these students need continuous support from a classroom assistant, especially when included in general education.

4.3.4 Classroom Environment

Three trends in special education have especially significant influence on the classroom environment, they are:(1) early intervention and prevention, (2) technology, and (3) transition plans.

1.   **Early intervention and prevention.** Early intervention and prevention of disabilities are not new ideas, but they have experienced increasing emphasis. Schools are realizing that early intervention and prevention not only benefit children in the long run but save money as well by reducing the later need for costly services. Two significant issues are the appropriate role for the family of the child and whether the intervention should be child centered or teacher-directed. In addition, obstacles to early intervention and prevention are still being addressed.

2.   **Technology.** Technology permeates our society with increasing intensity and reaches into classrooms. It helps students overcome limitations previously placed on them by a disability. Computer programs allow keyboarding and navigation of the Internet by eye movements. Cochlear implants allow deaf students to hear, and new prosthetics (artificial body parts) provide greater mobility and participation in education and society.

3.   **Transition.** This is transition from one school setting to another or from school to work. Firstly, there must be transition-planning conferences for children exiting early intervention programs, the second is a statement of needed services for the transition from high school to higher education or work in the Individualized Education Plan (IEP) for students age fourteen or older. Other forms of transition planning, such as from middle school to high school or from a self-contained or restrictive environment to a less restrictive environment, are also becoming common.

4.3.5 Special Education Teachers

There is a critical teacher shortage in special education in all areas of licensure. Reasons include a shortage of people going through teacher training programs in special education and entering the field, and alarmingly high exit rates for special education teachers. For example, statistics from 1993 - 1994 shows that the total demand for special education teachers was 335,000, yet there were only 18,250 special education degree graduates, covering a mere 5.4 percent of the demand. Because of this gross need, alternative licensure programs have evolved: army personnel are being trained for a second career in teaching and

drastically intensified and accelerated summer programs are replacing four-year licensure programs. While these programs can help place more teachers in the classroom, some professionals question the quality of both the teacher education programs and the newly licensed teachers. Also, some districts fill special education positions with teachers having either no prior education experience or with only general education experience and provide provisional or conditional licensure to these newly hired teachers. Due to these difficulties, teacher retention has also become a critical issue.

Debate also exists over categorical or non-categorical licensure. Proponents of categorical licensure argue that each disability category is substantially different from others and that teachers should be highly specialized in that area. Proponents of non-categorical licensure argue that teachers should be prepared to teach all children and should have the expertise to address differing abilities and disabilities.

A closely related issue is a trend in higher education to merge the special education teacher program into the general education program, doing away with special education altogether. The arguments for and against this teacher education structure are similar to those for categorical versus non-categorical licensure.

4.3.6 Funding Issues

Funding issues and controversies facing all areas of education, including special education. Because special education requires services above those specified in the general education curriculum, additional funding is critical. In1975, the federal government acknowledged the need for additional funding of programmes of persons with Special needs and promised to supplement it by 40 percent of the excess costs incurred in implementing the act's mandates. Unfortunately, the federal government has never come close to fulfilling this promise. Over the years, however, there has been a greater effort to provide these funds to the states.

Other issues persist at the local level. One common controversy stem from a belief that because the law requires special education services, these programs are funded first, utilizing the money that would otherwise be spent on general education. Another disputed issue is program consolidation - the blending of categorical programs such as special education, English as a second language, or other separately funded programs. Proponents believe that by pooling resources, all children can benefit and can be educated more effectively. Opponents of program consolidation believe it will diminish both the rights of children in these programs as well as the quality of special services provided.

Other issues persist at the local level. One common controversy stem from a belief that because the law requires special education services, these programs are funded first, utilizing the money that would otherwise be spent on general education. Another disputed issue is program consolidation - the blending of categorical programs such as special education, English as a second language, or other separately funded programs. Proponents believe that by pooling resources, all children can benefit and can be educated more effectively. Opponents of program consolidation believe it will diminish both the rights of children in these programs as well as the quality of special services provided.

NOTE: Other information on current issues in special education can be referred in the works of McKenna (2021). Click here

Self-Assessment Exercises 1

Attempt the following questions in not more than 5 minutes.
1. School reform has been a burning issue since the early _____

A. 1970s
B. 1980s
C. 1990s
D. 2000s
2. Three trends in special education have significant influence on the following except_____
A. early intervention and prevention,
B. technology,
C. transition plans, and
D. ICT

3. _____is a pervasive developmental disability affecting approximately one in 500 children.
A. Autism
B. Learning Disability
C. Intellectual Disability
D. Emotional Disability

4.4   Summary

In this unit, we have learnt about various issues and reforms that have taken place in Special Education. Reforms such as full Inclusion, full continuum placement, nomenclature issues and finding issues.

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4.6   Possible Answers to SAEs

1.   1980s
2.   ICT
3.   Autism

MODULE 2   EDUCATION FOR THE INTELLECTUALLY RETARDED

Unit 1   Definition, Categories and Causes of Intellectual Retardation
Unit 2   Characteristics, Identification and Educational Method Of Teaching Intellectually Retarded Children

UNIT 1   DEFINITION, CATEGORIES AND CAUSES OF INTELLECTUAL RETARDATION

Unit Structure

1.1   Introduction
1.2   Learning Outcomes
1.3   Main Content
         1.3.1   Definitions
         1.3.2   History of Intellectual Retardation
         1.3.3   Classification of Intellectual Retardation.
         1.3.4   Causes of Intellectual Retardation
1.4   Summary
1.5   References/Further Readings/Web Resources
1.6   Possible Answers to Self-Assessment Exercises within the content

1.1   Introduction

Persons with intellectual Retardation or Cognitive disabilities are found in any society of the world. Individuals with intellectual retardation and those who teach or take care of them must learn all the essential skills needed or required to improve the living standard of the retarded.

It is paramount to know that the group of persons with disabilities belong to different families, they also have friends and siblings. Different societies of the world find it difficult to understand them, hence, they are called different names. In Great Britain for instance, they are referred to as Mentally Retarded or intellectually retarded while in the Nigerian Society, persons with intellectual retarded have names or labels other than the ones given by their parents. For instance, the Yoruba called them **"Dindirin"** while the Ibo call them "**Onye Iberibe"** and the Hausa refer to them as **"Dolo"** or **"Wawa".**

1.2   Learning Outcomes

By the end of this unit you will be able to:

* discuss the definitions of intellectual retardation.
* explain the degree of severity and outcome of intellectual retardation.
* identify different categories of children with intellectual retardation
* mention the possible causes of intellectual retardation.

1.3   Main Content

1.3.1 Definitions

There are various definitions of mental or intellectual retardation. Mental retardation is a generalized disorder characterized by subaverage cognitive functioning and deficit in two or more adaptive behaviour with onset before the age of 18. (AAMR 2002).

In a related definition The American Association of Mental Deficiency defines Mental Retardation thus "A significantly sub-Average general intellectual functioning that originates during the developmental period and is associated with impairment in adaptive behaviour (Grossman 1973). However, many professionals prefer the 2002 AAMR definition because it is more encompassing and detailed. The 2002 AAMR definition opines that one must be cautious in the use of I.Q scores, stresses concepts of adaptive behaviour and systems of supports. The definition of AAMR has three (3) major components.

* Intellectual functioning
* Adaptive behaviour
* Systems of support.

Intellectual Functioning: It means that the individual has been evaluated with instrument or test that has capacity to measure traits of intelligence in it entirely but the individual with intellectual retardation has significantly sub average intellectual functioning.

Adaptive Behaviour: This is simply the ability to cope with one's environment. It is a behaviour everyone uses to function in daily life. Persons with mental retardation and others with one disability may have

difficulties in this area because they do not have the skills needed in specific situation.

System of Support: This deals with social intelligence. The ability to interpret social behaviour of other people and to interact with them. Persons with intellectual disabilities require support in every area, especially the profoundly and severely mentally retarded.

1.3.2 History of Intellectual Retardation

Persons with Intellectual Retardation have been neglected in most societies of the world. The history of the intellectually retarded dated back before the birth of Christ. Data (2006) avers the Greeks in 1552 B.C. and the Romans in 449 B.C. were among the first to recognize people officially as mentally retarded. Attitude of people towards the mentally retarded in the early societies were harsh and in-human. the beginning of 19th century brought dramatic turning point in life of the mentally retarded. The first attempt to educate an individual with mental retardation was recorded. In 1798, three hunters discovered a 12 years old boy in the woods of Aveyron in France. The boy was later Christianed Victor, the wild boy of Aveyron, Victor was a profound mentally retarded, unsocialised and had no language. Victor was also thought to be uneducated and unteachable. As providence would have it. He was brought to Jean Hard an experienced physician. Jean Itard tried to educate Victor but he was unsuccessful though there were little improvement. Later Edward Seguin continued with the work of his master Jean Itard. Edward later established the Pennsylvania training school. Samuel Gridley Howe founded residential school in United State i.e., the Massachusetts School for the idiot and feeble-minded youth

1.3.3 Classification of Intellectual Retardation

In classifying intellectually retardation children's certain factors such as the degree of retardation, clinical symptoms, educational purpose and historical beliefs, and causes are taken into consideration. Intellectually retarded children are classified in different perspectives. These are traditional, degree educational and clinical.

TRADITIONAL CLASSFICIATION	CLASSIFICATION ACCORDING TO DEGREE	EDUCATIONAL CLASSIFICATION
Moron, I.Q 50-85	Mild	Educable Mentally Retarded
Imbecile I.Q 25-50	Moderate	Trainable Mentally Retarded

Idiot – I.Q. 0-25	Severe/Profound	Totally dependent Mentally Retarded.

The following are the clinical classification of intellectually retarded.
 Cretinism
 Down syndrome
 Hydrocephaly
 Microcephaly
 Cridu chat

1.3.4 Causes of Intellectual Retardation

Today, researchers in the field of special education have revealed that intellectual retardation is caused by many factors. Many of the causes are known but others remain mysteries that cannot be explained. The causes of intellectual retardation can be categorized according to the time at which the cause occurs. These are as follow:
- pre-natal (before birth)
- Perinatal (during birth)
- Post natal (after birth)

The prenatal causes can also be grouped into:
Chromosomal Disorders: These are genetic causes of intellectual retardation. There are some genetic syndromes that can cause intellectual retardation such as Down syndrome, William syndrome, fragile X syndrome and Prader Willi Syndrome.

Errors of Metabolism (inborn): The child will not be able to metabolise basic substances in the body as a result of inherited deference's in enzymes such as aminoacidic vitamins. Carbohydrate etc.   Also, Phenylketonuria is a hereditary factor that results in inability of a person to metabolise phenylalanine which builds up certain toxic in the body that can result in brain damage.

Developmental disorders of Brain formation.   These are: (i) Hydrocephalus (ii) Microcephalus.

Hydrocephalus: is a condition characterized by the enlargement of head because of too much pressure of the cerebrospinal fluid. *Microcephalus:* This is a condition causing development of a small, conical shaped head.
Environmental Factor: Myriads of environmental factors can affect a woman during pregnancy and the foetus she is carrying.
Such factors are:
- Maternal malnutrition
- Drinking alcohol during pregnancy
- Exposure of pregnancy to excessive radiation

•   Maternal rubella.

Peri-Natal Cause (During Birth)
 The following are peri-natal cause
 The use of forceps
 Insufficient oxygen

Post Natal Causes
The post natal causes of intellectual retardation can be categorized into two (2).
Biological post natal causes
Psycho social post natal causes
Biological post natal causes include infections, diseases, malnutrition while psychosocial post natal cause include poor environmental circumstances.
(Unassimilated environment).

Self-Assessment Exercises SAEs

 Attempt the following exercises in not more than five (5) minutes.
1. All these are the clinical classification of intellectually retarded.
   A. Cretinism
   B. Down syndrome
   C. Hydrocephaly
   D. Autism

2. The following are causes of intellectual retardation can be categorized according to the time at which the cause occurs in the following ways except
   A. pre-natal
   B. Perinatal
   C. periscopes
   D. Post natal
3. _____is a condition characterized by the enlargement of head because of too much pressure of the cerebrospinal fluid.
   A. Hydrocephalus
   B. Microcephalus
   C. Cretinism
   D. Down syndrome

1.4　Summary

In this unit, we have learnt about who the mentally or intellectually retarded are. We considered various definitions especially the one given by the American Association of Mental Retardation (2002). We also discussed the classification and causes of Intellectually Retarded Children.

1.5　References/Further Readings/Web Resources

American Association on Mental Retardation (2002). *Mental Retardation: Definition, Classification and Systems of Support (10th Ed.)* Washington, D.C.: AAMR.

Obani, T.C. (2004). *Handicap, Disability and Special Education. What Parents and Teachers want to know?* Ibadan: Book Builders.

1.6   Possible Answers to SAEs

1.   Autism
2.   Periscopes
3.   Hydrocephalus

UNIT 2   **CHARACTERISTICS, IDENTIFICATION AND EDUCATIONAL METHOD OF TEACHING INTELLECTUALLY RETARDED CHILDREN**

Unit Structure

2.1   Introduction

People have different behaviour and character. Intellectually retarded persons are likely to experience deficits in attention, memory, language development, self regulation, social and emotional development. We note that persons with intellectual retardation are candidates for a variety of social problems. For instance, they find it very difficult to keep friends because they cannot start up a conversation.

2.2   Learning Outcomes

By the end of this unit you will be able to:

•   educate people on how to prevent the condition.
•   identify the different characteristics of an intellectually retarded children
•   list various methods of training and education of the intellectually retarded children.

2.3   Main Content

2.3.1 Characteristics of Intellectually Retarded Children

Intellectually retarded children exhibit certain Behavioural Characteristic. These have been grouped into intellectual, and social.

2.3.1.1 Intellectual Characteristics

Intellectual characteristics exhibited by learners with intellectual retardation are:
Impaired cognition: the memory and learning capabilities are deficit.
They find it difficult to grasp abstraction.
Find it different to perform simple tasks
Find it difficult to store, retrieve and transfer ideas
Insensitive to environmental cues
Inability to use abstraction in solution of problems
Inability to generalize their experiences to other situations
They cannot learn any of the school subject such as reading, arithmetic, handwriting frequently without repetition.

2.3.1.2 Academic Characteristics

- Individual with intellectual retardation learns very little on their own from objects, events and situations.
- They fail consistently and are made to remain in a class for a long period of time without appreciable improvement.
- They lack confidence in themselves
- Find it difficult to learn school subjects such as Arithmetic, writing and reading.

2.3.1.3 Social Characteristics

Find it difficult to participate in group activities because of interpersonal relationships that exist in group activities.
They are followers rather than leaders.
They have low frustration to tolerance as a result of repeated features. This affects their social interactions.
They exhibit poor language skills. Inability to understand directions and find it difficult to express themselves.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. Learners who might find it difficult to learn school subjects such as Arithmetic, writing and reading is likely to be classified under _____retardation.

2. Learners who manifest low frustration to tolerance as a result of repeated features are classified under _____ retardation

3. Learners who find it difficult to store, retrieve and transfer ideas Insensitive to environmental cues may be grouped under _____retardation

2.4   Identification of Children with Intellectual Retardation

It is better to identify children with intellectual retardation early in life especially during the pre-school years because they are not developing speech language of motor skills at the same rate as their classmate without disabilities. The defining of children with intellectual retardation will assist the classroom teachers in identifying them before appropriate referral is made. The following characteristics may fall under three headings.

a.   Problems with cognition
b.   Problems with adaptation behaviour
c.   Need for support to sustain.

On the other hand, Smitha (2020) asserted that intellectual disability (ID) once called mental retardation, is characterized by below-average intelligence or mental ability and a lack of skills necessary for day-to-day living. Click here to read more on this.

Self-Assessment Exercises 2

Attempt the following questions in not more than five (5) minutes.

4. Exposure to pre-school enables to solve the related issues with speech development.
A. Yes
B. No
C. sometimes
D. Undecided
5. When learners with retardation are identified, there is need to _____ them to professionals.
A. Refer
B. Reffer
C. Referal

2.5   Methods of Educating Children with Intellectual

Retardation Various methods can be used in educating children with intellectual retardation. These methods are highlighted below:

Physiological Method: It lays emphasis on the development of imperfect sense organs supplements by academic and occupational training. This method was developed in the mid-nineteenth century by Edward Seguin. He used series of exercises to provide proficiency in audition, vision, touch and taste.

Permissiveness Method: This was developed by Maria Montessori. The use of toys is permitted to teach the intellectually retarded. She advocated individual method and that the principle of permissiveness should be encouraged.

Project Method: This method utilizes many manual activities and correlates academic subject matter with workshop crafts and home economics. This method was propounded by John Duncan

Picture Exchange Communication System (PECs): You use pictures to depict all activities.

Baby Sign: Through this method the teacher pronounces a word and he/she demonstrates it for the leaners e.g., sleep.

Playaway Method: Through dancing. You encourage them to learn in a relax atmosphere.

Systematic Instruction: It involves instructional prompts, consequences for performance and transfer of stimulus control.

Water-Down Approach
This method emphasizes learning from simple to complex. The teaching should be water down so that individuals with intellectual retardation would learn.

Distinctive Methodology
Distinctive methodology was propounded by Alfred Stranss in 1940s. it is prototype of individual instruction or individualized programme. This method will assist the intellectually retarded children to learn.

Adima Approach
Adima worked with the mentally retarded children in Nigeria. He drew His source from philosophy of Nigeria Education. He was of the opinion that the intellectually retarded should have separate curriculum from the normal or traditional curriculum. This is what ADIMA approach stands

for:

A –   Adaptation: The traditional curriculum should be adapted to the needs of mentally retarded children.

D –   Demonstration: The actual teaching of mentally retarded should rely heavily on demonstration.

I –   Instruction: The demonstration should be based upon instructional materials related to the content of the curriculum.

Further, *"Token Principle"* is essential in special education. Reward instances of generalization from one skill to another.

Present facts and concepts in sequence that is from simple to complex. Intellectually retarded learners should be given training skills in verbal expression, cognitive skills, self-help skills, social skills and vocational skills.

Mental Age: Mental age of the child should be given serious consideration. Further, in teaching children with intellectual retardation certain things should be noted:

(a)   Learning materials should be concretized, meaningful and relevant

(b)   The use of repetition is essential

(c)   Reinforcement of learning through using a variety of sense modalities – visual, vocal auditory and touch.

Attempt the following questions in not more than five (5) minutes.

6. _____ lays emphasis on the development of imperfect sense organs supplements by academic and occupational training.

   A. Physiological Method

   B. Project Method

   C. Social Method

   D. Permissive Method

7_____method emphasizes learning from simple to complex.

2.6   Summary

In this unit, we have learnt about the mentally retarded children. We also highlighted different characteristics being exhibited by children with intellectual retardation. These characteristics are intellectual, academic

and social. We also learnt about methods of identifying them and the mode of educating them.

2.7   References/Further Readings/Web Resources

American Association on Mental Retardation (2002). *Mental Retardation: Definition, Classification and Systems of Support (10th Ed.)* Washington, D.C.: AAMR.

Grossman, H. (1973). *Manual on Terminology Classification in Mental Retardation.* Washington, D.C.: AAMD.

Smitha, B. (2020). Intellectual Disability. https://www.webmd.com/parenting/baby/child-intellectual-disability

2.8   Possible Answers to SAEs 1

1.   Academic
2.   Social
3.   Intellectual

Possible Answers to SAEs
1.   Yes
2.   Refer

Possible Answers to SAEs
3.   Physiological Method
4.   Water-Down Approach

MODULE 3   EDUCATION OF THE HEARING IMPAIRED AND COMMUNICATION DISORDERS

Unit 1   Definition, Causes and Classification of Hearing Impairment
Unit 2   Identification and Educational Placement of Hearing Children
Unit 3   Learners with Communication Disorders

UNIT 1   DEFINITION, CAUSES AND CLASSIFICATION OF HEARING IMPAIRMENT

Unit Structure

1.1   Introduction
1.2   Learning Outcomes
1.3   Main Content
        1.3.1   Definition of Hearing Impairment?
        1.3.2   Causes of Hearing Impairment
        1.3.3   Classification of Hearing Impairment.
1.4   Summary
1.5   References/Further Readings / Web Resources
1.6   Possible Answers to Self-Assessment Exercises within the content

1.1   Introduction

The ability to hear and turn sounds into meaning is an assumption of life to many living souls. It is an ability we often take for granted. The organ of hearing is one of marvellous gifts of God. The ear is very important because it is one fundamental way we learn about the thoughts, ideas and feelings of others by listening to them. Hearing impairment are full or partial decrease in the ability to detect or identify sounds. The term has been variously defined by several authorities, researchers and scholars of reputes in the field of medicine, audiology and education.

1.2   Learning Outcomes

By the end of these units, you will be able to:

•   give your own definition of deafness
•   list and explain the major causes of hearing loss
•   mention signs and symptoms of hearing impairment.

1.3   Main Content

1.3.1 Definition of Hearing Impairment

Scholars have defined hearing impairment in various ways. We are going to examine these definitions.
 Abang (1992) described hearing impairment as disability ranging from mild to profound condition and classified it into the following groups:
(a)   those with slight hearing loss;
(b)   those with mild hearing loss;
(c)   those with moderate hearing loss;
(d)   those with severe hearing loss;
(e)   those with profound hearing loss.

In a similar vein, World Health Organization WHO (2005) defined hearing impairment as complete or partial loss of ability to hear from one or both ears.
The term hearing impairment is a generic term that is made up of two distinct classes based entirely on the severity of the impairment.
These two classes or group, are the hard of hearing and deafness.

Therefore, hearing impairment is a hearing loss, whether permanent or fluctuating that adversely affects a child's educational performance.

Hard of Hearing: These are individuals in whom sense of hearing through defective is functional with or without a hearing aid. They are also referred to as individuals with partial hearing loss (Mba, 1995).

Deafness: Children who cannot hear sounds at all or above certain intensity are grouped as being deaf.   A deaf person can be described as one whose hearing is disabled to an extent that his understanding of speech through ear alone with or without the use of a hearing aid.

1.3.2 Causes of Hearing Impairment

Like other disabilities, causes of hearing impairment may fall under three stages of life such as pre-natal- (before birth), peri natal (during birth), and post-natal (after birth).

The peri-natal stage is from the time of conception to delivery. This stage is a very crucial stage in the life of the foetus most especially the first three months (trimester). Anything that affects the mother at this stage is

likely to have direct impact on the foetus. Some of the conditions that could lead to hearing impairment at this stage are as follows:
Heredity
Rhesus incompatibility factor
Unprescribed drugs taken by the mother during pregnancy
Lack of proper antenatal care
Malnutrition

Heredity: This is a situation where traits of hearing impairment or deafness is transmitted from parents or grandparents to the children. There are many hereditary diseases and syndromes that can lead to hearing impairment such as otosclerosis. When it runs in the family from generation, the hearing loss or impairment usually follows as a pattern called autosomal dominant. When both parents do not have a hearing loss but carry a gene that causes its, this is called autosomal recessive and the implication is that at least one child out of four will have hearing impairment.

RH Factor: This is also known as blood in compatibility. It is a situation whereby RH-positive mixes with RH negative. In other words, if a mother with Rh negative conceives of a foetus with RH positive, the mother develops antibodies against the foetus causing anoxia in the blood stream. This result in breakdown of the foetal blood stream leading to such birth defects as deafness, intellectual retardation or cerebral palsy.

Maternal Diseases: There is no doubt that certain diseases could attack expectant mother which may place the foetus at risk by being born with profound deafness. Some of these include, Rubella, Cytomegalovirus influenza, syphilis and whooping cough.

Unprescribed Drugs Taken by the mother during Pregnancy: Drug abuse or drug misuse during pregnancy can act as catalyst to successful delivery of the new born baby. Examples of such drugs that are dangerous during pregnancy are: Chloroquine, Quinine, tetracycline etc. ***Insensitive to Anti-natal Care by the Expectant Mother:*** During pregnancy an expectant mother is expected to register in a certified clinic and attend ante-natal clinic where adequate facilities and care are available. Some women exhibit lackadaisical attitude towards this.
This nonchalant attitude may expose themselves and the unborn baby/child to unwanted risk that could be prevented if adequate care and counselling had been given to them.

Malnutrition: During pregnancy the foetus in the womb depends solely on the mother therefore it is expedient for the pregnant mother to feed on balanced diet. A malnourished mother is likely to give birth to a malnourished child who will be at the risk of impairment.

Peri-Natal Causes
This is the period from the outset of labour till the arrival of the baby. This stage is very delicate and some of the things that could lead to hearing impairment at this stage are:
- Prolong labour.
- Anoxia insufficient of supply of oxygen.
- Misuse of forceps.

Post Natal Causes (After birth)

The post natal causes of Hearing impairment are:
- *Infection/Diseases:* There are certain infections on diseases that can attack the child after birth. Such diseases such as chicken pox, measles can affect the child if they are prolonged and untreated.
- *Age Related Hearing Loss:* Also known as presbycusis is the natural decline in hearing that many people experience as they get older. This is partly due to loss of ear cells in the cochlea.

Acoustic trauma: Injury caused by loud noise can damage hair cells thereby resulting in hearing loss.

Drugs: Certain drugs, such as some powerful antibiotics, antimalarial drugs can cause permanent hearing loss.

Head Injury: Direct head injury, particularly trauma severe enough to cause unconsciousness, can cause inner ear loss.

1.3.3 Classification and Educational Placement of Children with Hearing Impairment

Various attempts have been made to classify deafness. Mykleburst in Alade (2005) classified deafness according to the following major factors. Deafness can be classified according to degree of deafness.
(1) *The Deaf:* These are those in whom the sense of hearing is non functional for the ordinary purpose of life. This group has total loss of hearing.
(2) *The Hard of Hearing:* These are those in whom sense of hearing though defective is functional with or without hearing aids.

This group has partial hearing loss.
Age of Onset of Deafness
The basis of classification are as follows:
(1) *Acquired Deafness:* This is also known as adventitious deafness. It refers to deafness that occurred later in life, when language and speech skills have been fully developed. The individual is born with normal hearing, but later becomes non-functional through illness or accident.

(2)   *Congenital Deafness:* The congenitally deaf are those who are born deaf. The individual has never heard any meaningful sound nor acquired speech and language speech at all.

(3)   *Pre*-lingual Deafness: This is a deafness present at birth or occurring early in life at an age prior to speech development and language acquisition.

(4)   *Sensori-neural Deafness:* This includes hearing loss that results from accident diseases affecting the normal functioning of the Inner ear.

Conductive Deafness: Conductive hearing loss is described as a loss resulting from defects of the conductive pathways of the ear i.e. the external and the middle ear with normal inner ear.

Central Deafness: This includes all hearing loss. Which results from lack of normal functioning of the auditory pathways leading from the inner ear to the interpretive areas of the brain.

Jerger (1980) and Okuoyibo (2006) audio logically classified hearing impairment according to level of hearing loss in decibets (dB) using audiometer thus:

- Normal hearing   -   0dB -   20dB
- Mild/moderate loss   -   21dB -   60dB
- Severe loss   -   61dB -   80dB
- Profound loss   -   81dB -   100dB.

A child with profound hearing loss automatically falls into the group earlier referred to as the deaf.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. Deafness can be classified according to degree of _____

2. _____is also known as adventitious deafness.

3. _____hearing loss is described as a loss resulting from defects of the conductive pathways of the ear

4. _____results from lack of normal functioning of the auditory pathways leading from the inner ear to the interpretive areas of the brain.

1.4   Summary

In this unit, we learnt about what hearing impairment is all about, we also discussed various types and causes of hearing impairment. Light was also shed on classification of persons with hearing impairment.

1.5   References/ Further Readings/Web Resources

Abang, T.B. (1992). Handbook of Special Education for Special Educator in Developing Countries. Jos: Andex Press.

Alade, E.B. (2005). Hearing Impairment in Onwuchekwa, J.A. *Comprehensive Textbook of Special Education.* Agbo Areo Publications.

Jerger, J. (1980). Research Priorities in Auditory Science: The Audiologists' View Ann otol/Rhino

1.6 Possible Answers to SAEs

1.   Deafness
2.   Acquired Deafness
3.   Conductive Deafness
4.   Central Deafness

UNIT 2   IDENTIFICATION AND EDUCATIONAL PLACEMENT   OF   HEARING-IMPAIRED CHILDREN

Unit Structure

2.1   Introduction
2.2   Learning Outcomes
2.3   Main Content
         2.3.1 Identification and Assessment of Persons with Hearing Impairment
         2.3.2 Educational Placement
         2.3.3 Classroom Applications for the Hearing Impaired
2.4   Summary
2.5   References/Further Readings Web Resources
2.6   Possible Answers to SAEs

2.1   Introduction

Hearing is one of the "distance senses" that provides us information from outside our bodies. When Hearing is limited, our ability to communicate with others will be limited. We have many hearing-impaired learners in our schools. In order to teach the deaf child, the teachers should posses certain qualities and skills in the education of learners with hearing impairment.

2.2   Learning Outcomes

By the end of this unit, you will be able to:

• identify and manage a hearing-impaired child in a classroom setting.
• list the major types of assistive technology designed for   persons with hearing impairments;
• itemize classroom applications for the hearing impaired.

2.3   Main Content

2.3.1 Identification and Assessment of Persons with Hearing Impairment

Early identification of deafness is very crucial in working with the hearing impaired. Informal identification centres mostly around observation by teachers, parents and others around the child. The following signs have been suggested to be noted among children (Webster, 1986).

- The child complains of earache, fullness of visible discharge;
- The child may be educationally weak;
- The child shows signs of speech problem;
- The child may always ask for repetition of statement.

Hearing identifies a child with any or some of these traits. It is advisable to refer such to an audiologist for audio logical assessment.

2.3.2 Educational Placement

The ideal placement for the child with hearing impairment is the regular school where they will be educated alongside with their counterparts. This is a form of integration. Today we talk of inclusion which is the highest form of integration. Though we have the closed type of schooling system called segregation. In segregation, the hearing impaired are educated in separate schools specially prepared for the deaf alone.

Apart from the above, we have methods of educating the Hearing Impaired:

1. *Oral Approach:* This involves the teaching and using of speech exclusively for persons with Hearing Impairment.
2. *Bilingual – Bicultural Approach:* This method involves the teaching of American Sign Language (ASL) as their first language and written English as their second language.
3. *Total Communication:* This method combines oral speech and manual communication. This method allows the child to communicate through whatever mode is easiest and most effective.
4. *Manual Approach:* This method consists of the use of finger spelling and signs in communicating with the hearing impaired.

This method does not allow the use of speech.

2.3.3 Classroom Applications for the Hearing Impaired

- Seat learners with Hearing impairment where they can see everyone who may be speaking.
- Provide ample lighting particularly on instructional visual aids.
- Be sensitive to classroom noise and seek to reduce it.
- Employ the use of maps, globes charts to demonstrate Basic concepts.
- Use familiar concepts and concrete objects as much as possible.
- When speaking, do not be too fast so that the learner can gain from you through lip reading.
- Keep your hand from your face when speaking.
- Use sign or fingerspelling or promote speech reading when giving instruction
- Do not back the student when addressing them. Also, avoid writing on the chalkboard while talking.

Added to the above, learners with hearing impairment may benefit a lot from the following:
- Assistive Technological Devices - Computer Assisted Instruction (CAI) - Speech digitizers and synthesizers.
- Talk communication devices for the deaf.
- Amplification devices (hearing aids)
- The internet

Self-Assessment Exercises SAEs 1

Attempt the following questions in not more than five (5) minutes.

1. The ideal placement for the child with hearing impairment is the _____where they will be educated alongside with their counterparts.

2. _____method consists of the use of finger spelling and signs in communicating with the hearing impaired.

3. Th use of _____promote speech reading when giving instruction.

2.4 Summary

In this unit, we have learnt about who the hearing-impaired children are? We also shed light on the strategies and methods of identifying them and we have also discussed how they can benefit educationally in a classroom setting.

2.5 References/Further Readings/Web Resources

Abang, T.B. (1992). Handbook of Special Education for Special Educator in Developing Countries. Jos: Andex Press.

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WHO (2005); Deafness and Hearing Impairment: mediainquires@who.int

2 6   Possible Answers to SAEs

1.   Regular School
2.   Manual Approach
3.   Sign or fingerspelling

UNIT 3   LEARNERS WITH COMMUNICATION DISORDERS

Unit Structure

3.1   Introduction
3.2   Learning Outcomes
3.3   Main Content
      3.3.1 Definition of Communication Disorders
      3.3.2 Classification of Speech Disorders
            3.3.2.1 Articulation disorders
            3. 3.2.2 Voice disorders
            3.3.2.3 Language disorders
            3.3.2.4 Disorder of fluency
      3.3.3 Educational Approaches to Speech Disorders
3.4   Summary
3.5   References/Further Readings /Web Resources
3.6   Possible Answers to Self-Assessment Exercises within the content

3.1   Introduction

Communication is as old as man. Language is the foundation for all learning. We use language to express our thoughts, needs, observation and interact with friends and family. For most people learning to communicate effectively it comes naturally while some have challenges in communication. There is no doubt that our society places high value on oral communication.

3.2   Learning Outcomes

By the end of this unit, you will be able to:
- describe "speech impairment" and "language impairments".
- mention characteristics of language impairment.
- identify the possible causes of language impairment

3.3   Main Contents

3.3.1 Definitions

Communication disorder is an impairment in the ability to use speech or language to communicate. It is pertinent to understand the concept of communication before one can have a clear understanding, at least two people are involved in communication process: a sender and a receiver. There must also be a message, the sender has a thought or idea which is interpreted into a code the receiver can understand. Therefore, communication occurs only when the receiver can correctly decode the message of the sender: if the receiver can not decode correctly the message from the sender, it then means that communication is unsuccessful.

Communication requires the receiver to use the eyes, the ears or even the tactile (touch) sense (as do those who use Braille) to convey the message to the Brain where it is understood. Therefore, communication is the process of exchanging knowledge, ideas, opinions and feelings through the use of verbal or non verbal (e.g. a gesture) language (Smith, 2007).

Speech disorders are abnormal speech that is unintelligible, unpleasant or interferes with communication. A person may have speech impairment if he/she has problems or difficulties with the following area.
Articulations, fluency and voice.

Speech Disorders
These are impairments in the production and use of oral language. Speech disorder can have effect on how a person interacts with others in different settings. Speech disorders includes disabilities in making speech sounds, producing speech with normal flow and producing voice.

3.3.2 Classification of Speech Disorder

Speech disorders can be classified according to several criteria. But the major classification of speech disorders could be in the following order. - Articulation disorders
- Voice disorders
- Language disorders
- Disorder of fluency

3.3.2.1 Articulation Disorders

This is abnormal production of speech sounds. It exists when the process of producing speech sound is flared and as a result of this, the speech should will be incorrect. Articulation problems may result in the omissions additions substitutions or distortions of certain speech sounds. Therefore, a child may say "dood" girl instead of "good" girl. Articulation problem has been found to constitute the largest proportion of speech disorder. The words that are mispronounced may be initial, middle, or final words or letters. Missing, substituted, added or poorly pronounced word/sound may make a speaker difficult to understand.

Causes of Articulation Problems
Okuoyibo and Makinde (2004) opined that the causes of articulatory disorders can be divided into two:
(a)   The Physical malformation of articulators e.g. the mouth, the lips or palette (cleft palette), the jaws or teeth. Any abnormality in the formation of the above structures could lead to articulation disorder.
(b)   Functional causes: This refers to disorders that occur in the presence of normal articulators. A good example is faulty learning of poor speech model.

3.3.2.2 Voice Disorder

This is an abnormal spoken language production, characterized by unusually pitch, loudness or quality of sounds. An individual is said to have voice problem if such individuals speak with a voice that differs in pitch loudness or quality from the voices of others of the same age and sex in their cultural group.

Pitch: This is an aspect of voice. Its perceived high or low sound quality.
Loudness: Intensity can be used to describe loudness. Voice can be described as either being too loud or too soft.

Causes of Voice Disorders
Voice disorders may occur as a result of the following:
(a)   The way the voice is being used
(b)   Undue abuse of the voice by screaming, shouting, straining. (c) Cold
(d)   Imitation
(e)   Hearing Impairment
(f)   Brain damage – stroke

3.3.2.3 Language Disorders

Language is the complex system; we use to communicate our thoughts and feelings to others. A person that has language impairment will have breakdown in one of the three aspects of language. These are:
-       Form
-       Content - / Phonology

Form: This is the rule of language including phonology, morphology and syntax.

Phonology: Rule within the language governing combination of sounds.

Phonological Awareness: This is understanding, identifying and applying sound – symbols relationships (letter sounds rhyming). Aphasia is a major form of language disorder. It is the partial or complete loss of the ability to speak or to comprehend spoken words due to injury or disease.

Causes of Language Disorder

The causes of language disorders are:
A.   Brain damage
B.   Hearing Impairment
C.   Genetic Causes
D.   Environmental factor (unstimulating environment)

Characteristics of Language Disorders
-       Cannot create rhymes
-       Is unable to follow oral direction
-       He/she has inadequate vocabulary
-       Has difficulty in expressing personal needs
-       Exhibit poor concept formation
-       Cannot break words into syllables
-       Has poor voice quality such as distracting pitch

3.3.2.3 Fluency Problems

Speech is supposed to flow sequentially and uninterrupted. But when speech sound begins to be jerky, not smooth according to time sequence, we can then talk of speech disorder of time. Fluency disorders or dysfluencies usually involve hesitations and repetition of parts of words that interrupt the flow of speech: stutter and cluttering are fluency problems. Stuttering is the lack of fluency in an individual's speech pattern often characterized by hesitation or repetition of sounds on words. We should note that stuttering can be learnt. It can be hereditary.

3.3.3 Educational Approaches

In order to enrich classroom environment and help learners to develop better language skill, certain strategies should be put in place. The following methods can be employed.
(a)   Instructional supports
(b)   Explicit language instructions
(c)   Language sensitive environment

Self-Assessment Exercises SAEs 1

Attempt the following questions in not more than five (5) minutes.

1. An impairment in the ability to use speech or language to communicate is referred to as

    A. Speech disability

    B. Communication disorder

    C. Voice disorder

    D. Language Disorder

2. In order to help learners to develop better language skill, the following strategies are put in place except

A. Instructional supports

B. Explicit language instructions

C. Language sensitive environment

D. Phonology support

3. One of these is not among the causes of language disorder
    A.   Brain damage
    B.   Ethical Challenges
    C.   Hearing Impairment
    D.   Genetic Causes

3.4   Summary

In this unit, we have learnt about various definitions of communication. Communication disorder is an impairment in the ability to use speech or language to communicate. Various causes and characteristics of

communication disorders were identified. Method of educating children with communication disorders were also discussed.

3.5   References/Further Readings/Web Resources

Okuoyibo, J.M. and Makinde, A.O. (2004). Speech Disorders. In J.M. Okuoyibo (Ed.) *An Introduction to the Education of Children with Special Needs.* Ibadan: Emola-Jay Communication

Smith, D.D. (2007). Introduction to Special Education: Making a Difference. Boston: Pearson Education Incorporation.

3.6 Possible Answers to SAEs

1. Communication Disorder
2. Phonology Support
3. Ethical Challenges

MODULE 4   EDUCATION OF THE PHYSICALLY AND HEALTH   IMPAIRED AND LEARNING DISABLED

Unit 1   Definition, Types and Causes of Physically and Health Impaired
Unit 2   Meaning, Causes, Identification and Educational Intervention for Children With Learning Disabilities

UNIT 1   DEFINITION, TYPES AND CAUSES OF PHYSICALLY AND HEALTH

Unit Structure

1.1   Introduction
1.2   Learning Outcomes
1.3   Main Content
        1.3.1 Definition of Physical and Health Impairment
        1.3.2 Causes and Types of Cerebral Palsy
                1.3.2.1 Types of Cerebral Palsy
                1.3.2.2 Causes of Cerebral Palsy
1.4   Summary
1.5   References/Further Readings/Web Resources
1.6   Possible Answers to Self-Assessment Exercises within the content

1.1   Introduction

Children and adult with physical or Health disabilities live in our midst. They are part and parcel of our societies. Physical disabilities and Health Impairment may be congenital or acquired later in life. Further readings on physical impairments can be seen here

1.2   Learning Outcomes

By the end of this unit, you will be able to:

• define physical and health impairment
• distinguish between neurological impairment and muscular condition
• identify chronic and infectious diseases.

1.3   Main Content

1.3.1 Definition

Physical disability is a condition that interferes with individual's ability to use his body. Most of these conditions affect the nervous, muscular or skeletal system and in most cases, they have mild, moderate or severe impact on mobility and motor skills. Health impairment, on the other hand is a condition that involves the internal organs and the blood and which requires ongoing medical attention (Kirk Gallagher and Anastaswoo, 1997).

Physical impairment can be divided into two (2)

(i)   Neurological Impairments and
(ii)   Muscular/Skeletal condition Neurological impairment are:
-        Cerebral palsy
-        Multiple sclerosis
-        Muscular dystrophy
-        Polio
-        Seizure
-        Spinal Cord disorders
Muscular/Skeletal Conditions:
-        Limb deficiencies
-        Juvenile Arthritis
-        Skeletal Disorders

Cerebral Palsy: This is not a disease. It is an incurable condition caused by brain injury resulting from damage associated with lack of oxygenated blood to the brain, some children with cerebral palsy show only one indication of brain damage such as motor disorder, others may exhibit combinations of symptoms. Although cerebral palsy may be incurable, advancement in medicine and rehabilitation technologies shows that long term intensive physical therapy in combination with surgical procedure bring improvement.

1.3.2 Causes and Types of Cerebral Palsy

The following can be possible causes of cerebral palsy; material infections, diseases, toxic substances, excessive exposure to x-ray during pregnancy. The use of forceps, high fever, hypoxia cerebral bleeding, oxygen deprivation, direct trauma to the brain.

1.3.2.1 Types of Cerebral Palsy

Cerebral palsy can be classified thus:
(a)   Hemiplegia: it involves one half of the body (right or left)
(b)   Diplegia: legs are involved more than arms.
(c)   Quadriplegia: all four limbs are involved
(d)   Paraplegia: only one leg is involved.

Other problems associated with cerebral palsy are spasticity characterized by stiffness or tenseness of muscles and inaccurate voluntary movement. **Multiple Sclerosis:** It is a chronic disease common in adults that causes the myelin covering the nerve fibbers of the brain and spinal cord to degenerate, impending the transmission of electrical signals from the brain to other parts of the body.

Muscular Dystrophy: Though very rare, is a disease that weakens and then destroys the affected individual muscles.
Seizures: The most common type of neurological impairment in children is Epilepsy. It is a condition of recurrent convulsion caused by abnormal brain electrical activity. People with epilepsy have recurrent seizure.

1.3.2.2 Causes of Cerebral Palsy

Seizures can be caused by any kind of damage to the brain. Insufficient oxygen (hypoxia), low blood sugar (hypoglycaemia), infections, and physical trauma.

Spina bifida: Spina bifida is a neural tube defect or abnormality of the spinal column as a result of an embryonic developmental failure. It is a congenital impairment which results in the outward protrusion of the meninges which cover the spinal cord (Ladipo, 2006).

Poliomyelitis: It is caused by a viral infection. If the virus successfully destroys the cells of the spinal cord, it results in paralysis of the muscles of the lower limbs. Different symptoms may occur in form of fever, painful muscle spasm and the inability to move the limbs that are affected.

Muscular/Skeletal condition are very common in children. This manifests itself in limb deficiencies, juvenile arthritis and robotics. Limb deficiencies involve missing or non-functioning arms or legs resulting in mobility problems while Juvenile arthritis is a profound and painful muscular condition seen in children using of high-tech devices to perform motor skills is called "robotics".
Health disabilities can be grouped into 2. These are:

(i)   Chronic illnesses.
(ii)   Infections diseases.

The chronic diseases we refer to here are Asthma, Cysties fibrosis, Diabetes, Congenital heart defects, Tuberculosis (TB), Childhood Cancer, Blood disorders.

The infectious diseases are HIV and AIDS, Hepatitis B,
It is worthy to note that disability is no respecter of any race or age. However, it can be prevented if the following are adhered to.
(a)   Good Hygiene
(b)   Good pre-natal education
(c)   Avoidance of Injuries
(d)   Universal Immunization program.

Self-Assessment Exercises SAEs 1

Attempt the following questions in not more than five (5) minutes.

1. The condition that interferes with individual's ability to use his body is known as
    A. Physical disability
    B. Chronic illnesses.
    C. Infections diseases.
    D. Spina bifida
2. In how many groups is health disabilities grouped into?
    A. One
    B. Two
    C. Three
    D. Four
3. The disease that weakens and then destroys the affected individual muscles is

    A. Seizures
    B. Poliomyelitis

1.4   Summary

In this unit, we have learnt about physical and health related problems. Physical impairment is divided into 2; Neurological impairment and muscular conditions. Health disabilities can be grouped into 2. Chronic and infectious diseases.

1.5 References/Further Reading/Web Resources

Ladipo, S.O. (2006). The Physically Handicapped in Regular schools. In Obani T.C. (Ed.). Teaching Pupils with Special Educational Needs in Regular UBE Classroom. Ibadan: Bookbuilders.

Kirk, S.A., J.J. Gallagher and N.J. Anastasiow (1997). Educating Exceptional Children. 8th Ed. Houghton Mifflin Co., Boston.

Massachusetts Department of Elentary and DSecondary Education (2016). Physical and Health Impairement https://www.doe.mass.edu/sped/links/pi.html#:~:text=The%20physical%20capacity%20to%20move,movement%3B%20performing%20basic%20life%20functions.

1.6   Possible Answers to SAEs

1.   Physical Disability
2.   Two
3.   Muscular Dystrophy

UNIT 2   MEANING, CAUSES, IDENTIFICATION AND EDUCATIONAL INTERVENTION FOR CHILDREN WITH LEARNING DISABILITIES

Unit Structure

2.1   Introduction
2.2   Learning Outcomes
2.3   Main Content
       2.3.1   Meaning of Learning Disabilities
       2.3.2   Causes of Learning Disabilities
       2.3.3   Identification of Learning Disabilities
       2.3.4   Educational Intervention for Children with Learning Disabilities
2.4   Summary
2.5   References/Further Reading
2.6   Possible Answers to Self-Assessment Exercises within the content.

2.1   Introduction

The child with learning disability has strengths in many areas but weaknesses in some core attributed that lead to underachievement. The learning disability is unexpected because of the above average or average intelligence as the weaknesses lead to difficulties with achievement and adaptive functions, but not all areas of adaptations (Netcher, Morris and Lyon, 2006).

2.2   Learning Outcomes

By the end of this unit, you will be able to:
- define the term learning disabilities
- mention educational interventions for children with learning disabilities
- list 5 characteristics and 4 causes of learning disabilities

2.3   Main Content

2.3.1 Meaning of Learning Disabilities

Learning disabilities are disorders that affect the ability of an individual to process analyse and store information. The individual with learning disabilities exhibit discrepancy between potential and achievement. Learning disability is sometimes referred to as learning disorder, learning difficulty or learning difference. People with learning disabilities possess average or above average intelligence, yet they encounter difficulties in learning. They have an innate potential to learn if they receive early intervention. Learning disabilities could be mild, moderate or severe, people with the difficulty have different strengths and weaknesses, and they can be found in almost all classrooms. Nothing physical depicts a learning disability, and most people with the disorder are not discovered until they get to school where they experience persistent failure. It should be noted that learning disability is not the same thing as intellectual disability.

 The Individuals with Disabilities Education Act (2004) defined learning disability as a disorder in one or more of the basic psychological processes involved in understanding or using language spoken or written, that may manifest itself in an imperfect ability, to listen, think, speak, read, write, spell or to do mathematical calculations, including such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia and developmental aphasia.

Smith (2004) described learning disability as a discrepancy between what the child ought to be able to learn and what the child can actually learn.

2.3.2 Causes of Learning Disabilities

Nobody is really sure of the causes of learning disabilities, the causes as at now are largely based on hunches and assumptions. The suspected causes of learning disabilities as posited by Siegal (2009) are genetics, a minimal brain injury, neurological problems, biochemical reaction and psychological issues. Some of the suspected factors that could cause the disorder according to Smith (2004), Kirk and Gallagher (1989) are minimal brain injury, inadequate instruction, hereditary factors, structural brain differences, drug abuse and malnutrition.

2.3.3 Identification/Characteristics of Children with Learning Disabilities

Messina and Messina (2004) enumerated some signs that can be used to identify pre-school children with learning disabilities. According to them such children

- Speak later than most children
- Have pronunciation problems
    - Have slow vocabulary growth and are unable to find the right word.
- Lack interest in story telling
- Have difficulty rhyming words
    - Have trouble learning numbers, alphabets, days of the week, colours and shapes.
- Exhibit poor memory for routines
- Are extremely restless and easily distracted.
- Have difficulty sitting still
- Show lack of persistence at tasks
- Have trouble interacting with peers
- Have difficulty following directions or routines.
- Are slow to develop fine motor skills
- Have trouble learning self help skills e.g. (tying shoelaces)
- Are clumsy
- Show reluctance to draw or trace
- Have trouble reading from left to right.
  Experience and observation also show that Nigerian children with learning disabilities exhibit the traits listed below
- Poor memory
- Poor spelling
- Poor handwriting
- Poor reader
- Grips writing materials too tightly or too loosely
- Avoid reading aloud
- Unable to form simple and correct sentences
- Unable to comprehend read passages
- Uses vocabulary that is below age
    - Poor mathematical/Arithmetic concept/ may not be able to tell the time
- Poor art work
- Avoidance of tasks considered difficult
- Fails to submit classwork and assignment for marking
- Hyperactivity (in some)
- Hypoactivity (in some)
- Inability to read the mood of others
- Easily distracted
- Inability to transfer knowledge

- Gives excuses
- Aggression
- Feign illness
    - Truancy
    - Inferiority complex

For high school and adults with learning disabilities, Messina and Messina (2004) noted that they exhibit the following traits
- Continue to spell incorrectly, frequently spell the same word differently in a simple piece of writing
- Avoid reading and writing tasks
- Trouble summarizing
- Trouble with open ended questions on tests
- Weak grasp of information
- Foreign language problems
- Poor written expressions
- Mental fatigue
- Weak memory skills
- Difficulty adjusting to new setting
- Work slowly
- Poor grasp of abstract concepts
- Either pays too little attention to details or focuses on them for too long.
- Misreads information

That an individual exhibits one or some of these traits that can be used to identify learning disabilities does not or may not signify that the individual has learning disabilities. If several or some of these traits are persistent over a considerable length of time, learning disabilities is present.

2.3.4 Educational Intervention for Children with Learning Disabilities

Educational interventions for children with learning disabilities can be very tasking. Educational interventions are diverse because of the individual differences exhibited by those affected. In a class where there are twenty pupils with learning disabilities, the teacher may need to plan twenty different programmes. These children may exhibit different problems in reading, writing, spelling, arithmetic etc, and what works for one child may not work for another. To buttress the above view, Steele (2005) stated that curricular and instructional decisions based on the individual child make the teaching learning disabilities. Irrespective of the educational intervention planned for children with learning disabilities, Individualized Educational Programme (IEP) is essential. IEP is a one-on-one programme that ensures that each child's unique needs are met. Educational intervention needs a multidisciplinary approach, it must be

early and it must be intensive in nature. Children with learning disabilities must be included, although when IEP is needed the teacher should create time to render the needed services, when instructions are generalized, these children sometimes do not benefit. The multidisciplinary approach needed by children with learning disabilities involves special educators, regular teachers and professionals that are related to the field of Special Education.

The teachers of these children must be qualified and the use of rote learning must be discouraged. Children with learning disabilities will gain little or nothing in an overcrowded class because of the additional support that they need. Parents should be involved in whatever interventions to be planned, parents' involvement is necessary so that they can continue at home from where the teacher stops at school. Relevant instructional materials should be used to teach children with learning disabilities. creative arts should also be employed to reach all concepts, because it boosts their memory and makes learning easier.

Specific intervention strategies are not discussed here because these interventions most of the time are specific to the individual child. An example of a tool that can however be used to make learning meaningful for children with learning disabilities is the computer. The computer is a versatile instrument that can enhance the learning ability of these children. For example, children who have writing problems should be encouraged to use the computer to do their work, magnetic letters can be used to teach reading while computer games can be used to teach most, if not all subjects to these children.

In some cases, children can be required to answer questions orally during tests and examinations, so as not to deprive them of education. Teachers should be aware of the learning modality of each child and fashion out their lessons so that it can take care of such modalities. Teachers of children with learning disabilities should be patient, they also need to be abreast of information as they unfold where these children are concerned. When teachers are not qualified, uninterested and impatient, children with learning disabilities will not benefit within the classroom setting they become frustrated and may drop out of schools.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. The child with learning disability has strengths in many areas but weaknesses in some core attributed that lead to
A. Laziness
B. Discriminatory achievement
C. Underachievement
D. Below achievement
2. In the study of Kirk and Gallagher (1989), these are some of the causes of learning disability except

   A. minimal brain injury,

   B. inadequate instruction,

   C. hereditary factors, and

   D. psychological issues

3. Exhibition of poor memory for routines is an attribute of
A. Mental disorder
B. Learning Disability
C. Autism
D. Menta loose

2.4 Summary

In this unit, we have learnt about the definition of learning disabilities as disorders that affect the ability of an individual to process, analyse and store information. We further discussed about the characteristics of learning-disabled children such as having difficulty sitting still, have pronunciation problems; have difficulty rhyming words. We also learnt about educational interventions for children with learning disabilities. You have learnt about the characteristics of learning-disabled children.

2.5   References/Further Reading/Web Resources

Fletcher, J.M. Morris, R.D & Lyon, G.R. (2006). Classification and Definition of Learning Disabilities. An Integrative Perspective. In Sawnson, H.L., Harris, K.R. & Graham, S. (Eds.) Handbook of Learning Disabilities. New York: The Guilford Press.

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Steele, M.M. (2005). Teaching Students with Learning Disabilities: Constructivism or Behaviourism? Current Issues in Education. On line 8(10) http://cle.asu.edu/vol 8/no 10. Retrieved 23rd July 2011.

2.6   Possible Answers to SAEs 1

1.   Under achievement
2.   psychological issues
3.   Learning Disability

MODULE 5   GIFTED AND TALENT DEVELOPMENT

Unit 1   Definition, Characteristics and Administration of Gifted And Talented Children

Unit 2   Curriculum Modification for Gifted and Talented Students

UNIT 1   DEFINITION, CHARACTERISTICS AND ADMINISTRATION OF GIFTED AND TALENTED CHILDREN

Unit Structure

1.1   Introduction
1.2   Learning Outcomes
1.3   Main Content
       1.3.1   The Meaning of Giftedness
       1.3.2   Definition of Giftedness
       1.3.3   Characteristics of Gifted Students
       1.3.4   Administrative and Educational Programmes Gifted and Talented Students
1.4   Summary
1.5   References/Further Readings
1.6   Possible Answers to Self-Assessment Exercises within the content.

 1.1   Introduction

Gifted and Talented individual are found in every society of the world. In ancient Greece for instance, in the days of Plato to be precise, these group of children are categorized thus:
(a)   Children of Gold; (b)   Children Silver,
(c)   Children of Bronze

When one looks critically at various events on the globe, one will be marveled at the brains behind diverse inventions in various fields of human endeavour. Therefore, one can tag these superior and extra ordinary events to be the products of the persons we called the prodigious, the precocious and the gifted.

1.2   Learning Outcomes

By the end of this unit you will be able to:

- define the term gifted and talent; and
- list common characteristics of giftedness.

1.3   Main Content

1.3.1 The Meaning of Giftedness

Key Points

Many definitions of giftedness have been proposed. They vary according to whether they are conservative or liberal; are single or multi-dimensional; and focus on potential or performance.

Part of the reason for the variation in definitions is that their advocates are searching for one 'true' definition when manifestations of giftedness will differ across time and cultures.

Thus, it is unlikely that a single definition of giftedness will receive unanimous endorsement.

Nevertheless, the breadth of definitions can contribute to a comprehensive view of giftedness and suggest avenues for future research.

1.3.2 Definition of Giftedness

As Davis and Rimm (1998:17) observe: 'Defining gifted and talented is both an important and complicated matter: Our definition has implications for whom we identify as being gifted, and for our programming or curricular decisions. The resulting label we apply to children can have both positive and negative effects on their self-esteem, self-expectations and family and peer relationships. (Danis and Rimm, 1998).

Yet the literature on giftedness yields some contradictory definitions. This lack of clarity means that the concept of giftedness is difficult to defend because it is 'defined to a loosely while being measured too restrictively' Gagne (95:104). This is perhaps inevitable because the skills that are regarded as most valuable will differ across time and between societies (McApine 1996). Therefore, our definition must be sensitive to and will depend on these contexts (Borland 1990).

Reflective on the diversity of definitions, McAlpine (1996) points out that definitions differ according to whether they are conservative or

liberal, are single or multi-dimensional, and focus on potential or performance.

Conservative versus liberal. Conservative definition tends to restrict the areas included in the gifted category or how many people will be regarded as gifted (Renzulli, 1986) – say, the top 5% on a given ability measure. These definitions use a single criterion, such as high intelligence (as measured by an IQ test), to define giftedness. Liberal definitions, in contrast, observe that there are no discernible differences in productivity between the top 3-5% and the 10-15% who fall just below that IQ level and so include up to 15-20% of the population in the gifted category (Reid & Renzulli 1982; Renzulli, 1982).

Single-versus multi-dimensional. Some definitions focus on achievements within the academic domain only, while others include achievements in a number of domains. The more dimensions a definition embrace, the more liberal the definition is likely to be. The push for an inclusive definition reflects a valid desire to avoid excluding individuals who truly are gifted. At the same time there is a recognition that, although the notion of giftedness needs to be broadened, it cannot become so broad that everyone is regarded as gifted – that, exceptional – as exceptionality would then be the norm (Runco 1993).

Potential versus Performance. Some definitions require evidence of ability, others include under achieving children within the gifted category, despite the fact that they are not demonstrating remarkable abilities in everyday situations. Ultimately, as Stermberg and Davidson (1986:3) observe:

'Giftedness is something we invent, not something we discover; it is what one society or another wants it to be'. We construct the category of 'giftedness' statistically by choosing where to place the demarcation between 'giftedness' and average abilities. This decision is entirely arbitrary (Birch 1984), and probably has as much to do with how many resources are available for addressing advanced learners as it has to do with any characteristic that distinguish gifted from average learners. In other word, our definition is political as well as psychological (SaponShevin 1994). Therefore, we must temper our judgements about children's abilities and needs with an awareness of the limitations of the constructs and tools that guide our practice.

1.3.2 Characteristics of Gifted Students

Being gifted in America today is not necessarily a positive experience. Gifted students and their parents experience a lot of rejection from an educational system in which conformity is valued and most kids are

expected to work along with the group without resistance or complaint. I have long wondered why we can spend considerable time and effort teaching students to appreciate diversity in ethnic and cultural terms, but we don't extend that mindset to differences in learning ability. I've never met a gifted kid who asked to be born that way. It just happens. We need to consider giftedness as simply another difference and make gifted kids as welcome in our classrooms as any other students.

There are already so many definitions for giftedness that I hesitate to offer another. However, in terms of classroom teaching, I define gifted students as "those who have ability in one or more learning areas that exceeds grade/age level expectations by two years or more". By this definition, the regular curriculum can't possibly provide the challenge these students need to continually move forward in their learning.

In recent years, some fascinating new insights into giftedness have emerged from the work of polish psychiatrist and psychologist Kazimierz Dabrowski (1902-1980). When Dabrowski studied a group of gifted children and youth, he found that they displayed what he called 'over excitabilities". They perceived all kinds of stimuli more intensely than others: they were super – sensitive to everything in their environment and felt the joys and sorrows of life more extremely than other children. (Today, over excitability – OE – is considered a maker of giftedness, one of the many things to look for when identifying a gifted child). Dabrowski believed that OE may lead to a series of "positive disintegrations", a developmental crisis, during which the individual rejects the status quo and questions everything. When things go well, this process continues and the person emerges as an autonomous, authentic human being with carefully thought – out values and beliefs. When they don't, the person may get stock in antisocial behaviour, disharmony, and despair. Dabrowski's theories help us to understand why living with the teaching gifted kids can be such an incredible challenge.

People often ask me for a "short list" of the characteristics' gifted children have which make identification easier. I believe that any student who possesses most or all of the following five characteristics is probably gifted.

1. Learns new material faster, and at an earlier age, than age peers.
2. Remembers what has been learned forever, making review unnecessary.
3. Is able to deal with concepts that are too complex and abstract for age peers.
4. Has a passionate interest in one or more topics, and would spend all available time learning more about that topic if he or she could.
5. Does not need to watch the teacher to hear what is being said; can operate on multiple brain channels simultaneously and process more than one task at a time.

Other characteristics are described throughout this chapter. To be gifted, one does not have to possess all these characteristics. However, when you observe students consistently exhibiting many of these behaviours, the possibility that they are gifted is very strong. Trust your own observations more than the "evidence" of mediocre standardized, test scores of poor grades. Listen respectfully to parents whose descriptions of their children at home match some of the information presented here. Sometimes, gifted kids choose to not appear gifted at school while continuing to demonstrate gifted characteristics at home. It's rare to find a child who is "gifted across the board". Most gifted kids are more likely to be gifted in one or two specific areas and average or even below average in others. For example, many highly verbal youngsters appear deficient in bodily kinaesthetic abilities, especially in Gym or physical education classes. I say "appear" because their physical abilities may be developmentally appropriate to their age but seem glaringly different from their intellectual abilities. Children who show evidence of giftedness in one or two areas are as eligible for compacting and differentiation opportunities as those who are gifted in many or all areas. Before we get into characteristics, I want to reassure you that you will probably never need all of this information. Chances are, you won't be asked to formally identify gifted students, they often identify themselves by showing their readiness for compacting and differentiation. The characteristics are included here in case you want and need guidelines for recognizing gifted behaviours. You may choose to share this information with the parents of gifted students in your classroom.

1.3.4 Administrative and Educational Programmes for Gifted and Talented Students:

The administration of a gifted programme is crucial to the success of their programme. In fact, the success of any educational programme for the gifted depends on it. According to some scholars, there are three main administrative provisions for the gifted. They are ability grouping, acceleration and enrichment (Clark 1983; Adesokan, 1990).
Ability grouping allows some students to be separated from the regular students. The selection is done through the level of measured intelligence. Thus, ability grouping can be done in the form of special classes or schools with special groups meeting prior to or after school. There are also the pull-out programmes during school hours in which gifted students could be separated for a given period of time before returning to the regular programme. A good example of such practice is that of the special school programme for the gifted in Nigeria, called Suleja Academy in Minna, Niger State.

Ortion (1980) observed that the longer the gifted are allowed to be in special programmes, the greater will be their gains. This observation is valid for the mathematicians studied by Bloom (1982). Bloom who attributed their success to the opportunities of special programmes which enhanced the exploration of topics of their interest to greater depths as well as gave them the opportunities of developing their own techniques in solving problems in such areas.

The following are several forms of ability grouping as recorded by Clark (1983) and Adesokan (1990).

(a)   ***Regular Classroom and Regular Classroom with Clusters:***
         In this setting, the gifted are grouped with non-gifted in a regular classroom. It is the most inappropriate organization for the gifted owing to the reliance on group instruction and or rigid curriculum. The instruction provides the same experience for everyone. Whitemore (1986) commented on this as follows: "It seems likely that future research could prove that the regular classroom is the most restrictive environment for the gifted, child". This is due to the conventionalized nature of the curriculum. Gifted and talented students need a flexible and dynamic curriculum in order to function properly.

(b)   ***Regular Classroom with Pull Out***
         Here, the regular students are grouped with the gifted students, but they have an opportunity to mix with other gifted students for a part of the day. They also have access to resource room, a special class, field trip; seminar and other unique learning arrangements. The disadvantage of this setting is that the gifted students are made to do the regular work for the period they were absent. The pull-out time is also inadequate in meeting all their learning needs. Moreover, the regular teachers sometimes recent the interruption of their classes by the pull-out programmes.

(c)   ***Regular Classroom with Clusters and Pull Out:***
         The gifted students are grouped with the regular students and there are more opportunities for interaction with other gifted peers. Consequently, there is a better follow through with the gifted programme. The quality of the programme depends on the regular teachers and the pull-out teachers. In this setting, the gifted students are also made to do the regular curriculum for the period they were away.

(d)   ***Individualized Classroom:***
         In this milieu, individual and flexible small group instruction "assessment" is used in determining the curriculum and materials for each student. The classroom is decentralized and given access to many different types of learning. In most cases, such classes are usually upgraded with students from different age levels and learning centres often found in the same classrooms. The

disadvantages are that gifted students are usually isolated with no one to share their ideas with if they are few. This setting also requires the services of specially trained competent teachers in order to avoid the problem of being unstructured.

(e)   ***Individual Classroom with Cluster:***
Here, students have access to many types of learning; there are also other gifted learners whom they can share their ideas with. The setting is also flexible with small group instructions. It requires the services of a competent teacher otherwise it would be unstructured and disorganized.

(f)   ***Individual Classroom with Clusters and Pull Out:***
It has the advantage of individual flexible small group instruction, with assessment being used to determine the curriculum and materials of each student. There is access to many types of learning experiences. More resources are available to both students obliged to do the work of the regular curriculum as in the case of the pull-out classroom.

(g)   ***Special Class with Some Integrated Classes:***
The design is by subject area, with the advantages of moving into integrated classes for subjects that stress talents. The gifted students in this milieu have the opportunity of appreciating other talents. This is very useful to the moderately gifted individuals. The setting requires services of specially trained teachers in order to avoid disorganization.

(h)   ***Special Class:***
The environment in his setting is highly conducive for the learning styles of the gifted as it is specially designed to suit their learning needs. There is the added advantage of their being challenged to their full potential in all areas owing to the flexibility of the environment.

(i)   ***Special School:***
This is mostly used for the highly gifted and talented. As such, the services of specially trained teachers are of utmost importance. The environment is conducive for the stimulation of the potentialities of the gifted. The only disadvantage is that the gifted students are isolated, allowed to integrate with their regular peers. Moreover, this sort of setting could lead to maladjustment later in life, since, the gifted would eventually work with the regular students who form the majority in the society. An example of such a school in Nigeria is the Suleja Academy, where we have the concentration of identified gifted students as a special school.

(j)   ***Special Group:***
Gifted students can experience this as an adjunct programme after school or during summer. The students' experiences range from special interest group or classes with single subject content to an open varied approach. There are disadvantages if used as a total

gifted programme as there are no provisions for special learning needs or interests of the individual students. Moreover, the programme lacks continuity. It is however, adequate if used as an enrichment in a regular setting.

Therefore, ability grouping may provide a partial answer to the learning needs of gifted students: Other modifications have to be made in order for the programme to succeed, at all levels of educational settings. Also, since there are individual differences among this category of children, individualized instructions are to be adopted in their education. Thus, there should be encouragement of all areas of intellectual functioning. On the other hand, total segregation should be avoided and the services of specially trained teachers should be secured. Consequently, parents and teachers should communicate with each other as their cooperation is critical to the success of the programme.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. Gifted children are also special needs children
   A. True
   B. Not true
   C. Unsure
   D. Sometimes

2. These are some of the administrative and educational programmes for gifted students except
   A. Regular Classroom with Clusters and Pull Out
   B. Individual Classroom with Cluster
   C. Special School
   D. Equal class work in an inclusive education

3. How true is this statement? "Most gifted kids are more likely to be gifted in one or two specific areas and average or even below average in others".
   A. Not true
   B. Undecided
   C. True
   D. Sometimes true

whom we identify as being gifted. We also discussed the characteristics of gifted student such as (i) learns new materials faster, and at an earlier age than age peers (ii) Remember what has been learnt forever, making

review unnecessary etc. we also discussed administrative and educational programmes that the gifted and talented children can benefit from.

1.5   References/Further Readings/Web Resources

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1.6   Possible Answers to SAEs 1

1.   True
2.   Equal classwork in an inclusive education
3.   True

UNIT 2 CURRICULUM MODIFICATION FOR GIFTED AND TALENTED STUDENTS

Unit Structure

2.1 Introduction

The appropriate school curriculum for the gifted is qualitatively different from the programme for the non-gifted students (Maker, 1993). According to her, the implication is that, the basic curriculum must be examined and changes or modifications made, so that appropriate curriculum could be provided for the gifted.

2.2 Learning Outcomes

By the end of the unit, you will be able to:

- design an appropriate curriculum for the gifted and talented children.
- you also highlight the kind of environment that can enrich education of the gifted and talented.

2.3   Main Content

2.3.1 Curriculum Modifications for Gifted and Talented Students

Gallagher (1994), also stated that the basic curriculum for the gifted can be modified in content, process and learning environment. (i.e the physical and psychological environment). While Renzulli (1991) added the product elements (the end products expected of children as a result of the processes used) as a dimension that must be considered.

2.3.2 Content Modification

The content of the curriculum consists of the ideas, concepts, descriptive information, and facts that are presented to the student. It can assume a variety of forms and can differ in its degree of abstractness, complexity, the way it is organized, and the subject areas covered.

Abstractness: The major focus of discussion, presentations, reading materials and lectures in a gifted programme should be an abstract concepts and generalizations – ideas that have a wide range of applicability or that transfer both with – and across disciplines or fields of study. Concrete information and factual data are intended as illustrations or examples of the abstract ideas rather than as the major focus.

Complexity: Visually abstract ideas are also complex, but abstract ideas vary in their degree of complexity. The abstract ideas presented to gifted students need to be as complex as possible. The complexity of an abstract idea can be determined by examining the number and complexity of concepts and the number and diversity of the disciplines or traditional content areas that must be understood or integrated to comprehend the ideas.

Variety: In the past year, variety has been the definition of enrichment and in many programmes has been the only content modification made for gifted students. The concept of variety suggests that in a gifted programme, ideas and content areas not taught in the regular curriculum should be taught.

Organisation and Economy
Since knowledge in most areas is increasing and changing more rapidly than ever before, and since gifted students have a limited amount of time to spend in school and in the programme, every learning experience must be the most valuable that can be offered. To achieve economy, content

must be organized to facilitate transfer of learning, memory, and understanding of abstract concepts and generalizations. According to Bruner (1983) these results can be achieved if the content is organized around the key concepts or abstract ideas to be taught rather than arranged in some other fashion.

Study of People
Gifted students are likely to become the scholars, leaders and creative, productive individuals of the future. They also enjoy reading biographics and autobiographies. For these reasons, along with their potential for learning to deal with their own talents and possible success, gifted students used to study creative and productive individuals. An analysis of problems these individuals faced should be included, along with the way they handle their problems, their personal traits, their career or professional characteristics, and their social interactions.

The Study of Methods
Gifted students should study the methods of inquiry – the investigative techniques – used by scholars in different disciplines. They need practice in using these methods and they should learn a variety of techniques. Such studies can contribute to a better understanding of the content area and enhance the independence of the students.

Process Modification
The process aspect of the curriculum involved the way new materials is presented, the activities in which the students engage, and the questions that are asked. Process includes teaching methods and the thinking skills or process developed in the students.

Higher Levels of Thinking:
The methods used in gifted programme should stress the use rather than acquisition of information. Since gifted students can rapidly and almost effortlessly acquire information, they should be expected to apply it in new situations, use it to develop new products.

Open – Enededness:
Questions and activities for gifted students should include a greater percentage of open-ended indicators that there is no predetermined right answer and that the questions or activities are provocative in that they stimulate more thoughts, permits and one child, and contributes to the development of students centered interaction pattern.

Discovery
The activities designed for gifted students should include a greater percentage of situations in which the students use their inductive reasoning process to discover patterns, ideas and underlying principles.

Such guided discovery has several advantages for these children:
1.   It increases their interest through involvement in learning;
2.   It builds on their natural curiosity, their desire to figure out the 'how and why of things' (Renzulli, Smith White, Callahan, and Hartman, 1994), and their desire to organize and bring structure to things; and
3.   It increases their self-confidence and independence in learning by showing that they are capable of figuring things out for themselves.

Evidence of Reasoning
 Another important process modification for use with gifted students is to ask them to express not only their conclusions but also the reasoning that led them to these conclusions. This aspect of teaching is especially important when using a discovery approach, developing higher levels of thinking, and asking open-ended questions. Using this strategy, students learn different reasoning process from other students, and they are encouraged to evaluate both the process and products of others' thinking. It also provides a vehicle for the teacher to assess the student's level of thinking.

Freedom of Choice
 Whenever possible, gifted students should be given the freedom to choose what to investigate and how to study their interest and excitement in learning will be increased by such techniques. However, not all gifted students are independent learners, so they may need assistance in making and executing their choices.

Group interaction activities and simulations:
Structured activities and simulation games, should be a regular part of the curriculum for the gifted students to enable them to develop their social and leadership skills. These activities should include following a set of rules interacting with a small group of students, peer evaluation and self-analysis or critique. Both peer evaluation and self-analysis will be more effective if the activity has been video-taped or audiotaped.

Pacing and Variety
The final two process modifications serve mainly as facilitators of the success of other changes. Pacing refers to how rapidly new materials is presented to the students. Variety simply suggests that the teacher use various methods to maintain the interest of the children and to accommodate the different learning styles of the students.

Product Modification
Products are the 'ends' of instruction. They can be tangible or intangible, sophisticated or unsophisticated. Sophisticated products involve detailed, original work, while unsophisticated ones involve paraphrasing or

copying. Products can include reports, stories, plays, dances, ideas, speeches, pictures and illustrations. The products expected from gifted students should resemble the products developed by professionals in the discipline being studied (Renzulli, 1994). These professional products will differ from typical students' product in the following ways:

- **Real Problems:** The products developed by gifted students should address problems that are real to them. Students can be allowed to choose a specific area of concern within a certain field of study and to design an investigation around the area.
- **Real Audiences:** The products developed by gifted students should be addressed to real audiences, such as the scientific community, the city council or a government agency. These students should not be developing products that are only seen or heard by the teacher. If real audiences are not available, other students can make up a stimulated audience.
- **Transformation:** Gifted students' products should represent transformations of existing information or data rather than being mere summaries of other people's conclusions. Original research, original artwork, and other such products should include the collection and analysis of raw data. If students have used their higher levels of thinking, they must produce a product that is a true transformation.
- **Evaluation**: Often students' products are only directed toward and evaluated by the teacher. The products of professionals are evaluated by the audiences for whom they were intended. Products of gifted students should be evaluated by appropriate audiences, including simulated audiences of peers. Students should also be encouraged and required to complete an extensive self-evaluation of their own products.

2.3.3 Learning Environment

According to Maker (1982) learning environment refers to the physical and psychological climate of the school and classroom. The learning environment appropriate for the gifted students is not too different from that of other students. There are many dimensions of learning environments that are important, and different individuals have different preferences for certain aspects (for example, amount of noise, light or presence of colour). All environment modifications presented in this section were chosen because they met the following three conditions:
1.   They are preferred by the gifted as a group
2.   They are necessary for implementing the content, process and product modifications advocated; and
3.   They build on the characteristics of gifted students.

(a)   Student-Centered versus Teacher-Centered:
        Environments for gifted students should include a focus on the students' ideas and interest rather than on those of the teacher. There should be a high degree of emphasis on students' discussions rather than on teacher talk, a pattern of interaction should seldom have the teacher as a central figure or focus.

(b)   Independence versus Dependence
        This dimension of the environment refers to the degree of tolerance for an encouragement of student initiative. The focus is on having students solve all the problems rather than having the teacher solve all the problems, including those related to classroom management.

(c)   Open versus Closed
        This aspect of the environment refers to the extent to which restriction affect the student and goes beyond academic into nonacademic areas. The physical environment needs to be open to permit new people, materials and things to enter. The same is true of the psychological environment. It must permit new ideas exploratory discussions, and the freedom to change directions to meet new situations.

(d)   Accepting versus Judging:
There are three major elements of this dimension:
(i)   Attempting to understand students' ideas;
(ii)   The timing of value judgments; and
(iii)   Evaluation rather than judgment.

Before teachers can assess student idea, they must accept and understand those ideas, that is, they must attend or listen actively, accept the ideas, and then request clarification, elaboration and extensions of the ideas before challenging them.

(e)   Complex versus Simple
        As a dimension of classroom climate, complex versus simplicity refers to both the physical and the psychological environment. A complex physical environment, which is necessary for the gifted, includes a variety of materials, references, and books; a balance of hard and soft elements; and a variety of colours. A complex psychological environment which is also necessary for gifted students includes challenging tasks, complex ideas, and sophisticated methods.

(f)   High Mobility versus Low Mobility
        This dimension of the environment refers to the amount of movement allowed and encouraged. To permit gifted students to develop professional products, allow movement in and out of the classroom and access to different environments, materials and equipment.

Complex Environment

A complex physical environment as observed by Maker (1982) required a variety of materials, references and books, a balance of hard and soft elements and variety of colours and challenging tasks. Secondly, high mobility should be encouraged, which include movement in and outside the classroom. The appropriateness of any educational programme for the gifted should be evaluated on how well these modifications the gifted are provided for by the curriculum.

Clark (1993) in support of an appropriate curriculum for the gifted opined that gifted programmes should extend beyond fact-gathering to provide opportunities for gifted students in the curriculum so as to find their areas of interest and abilities. Except students experience the problem of those efforts chosen areas of interest and through personal efforts developed real solution that affects others in these areas, we do not have a separate programme for such learners that are designated as gifted. Therefore, the gifted curriculum should reflect the learning needs of the students which should be based on assessment of their characteristics as well as other learning styles.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. The content of the curriculum consists must incorporate the following except

A. the ideas,

B. concepts,

C. descriptive information, and

D. Hypothesis

2. To permit _____students to develop professional products, allow movement in and out of the classroom and access to different environments, materials and equipment.

A. Disable

B. Retarded

C. Gifted

D. Intellectually retarded

3. As a dimension of classroom climate, complex versus simplicity refers to both the physical and the _____environment.

2.4   Summary

In this unit, we learnt about the appropriate school curriculum that is of benefits to the gifted and talented students. We also discussed about content modification of the curriculum.

We have learnt that the education of students with special gift or talents should be based on three characteristics (i) Curriculum designed to accommodate advanced cognitive skills (ii) Instructional strategies that is consistent with learning styles (iii) group of instructions. This curriculum should incorporate enrichment, acceleration as educational approaches.

2.5   References/Further Readings

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2.6   Possible Answers to SAEs 1

1.   Hypothesis
2.   Gifted
3.   Psychological

MODULE 6   EDUCATION FOR THE VISUALLY
                             IMPAIRED

UNIT 1   DEFINITIONS, HISTORY, CAUSES AND
                      PREVALENCE

Unit Structure

1.1   Introduction

Persons with visual impairment are found virtually in all societies of the world. Record confirms the outstanding works of some distinguished blind individual. Personalities such as Homer, the Greek poet who in the 8th century B.C. composed the odyssey and the Iliad. It was in the 18th century that the visually impaired began to experience an appreciable integration into the society. Personalities such as Nicholas Saunderson a blind man rose to the pick of his career as a professor of mathematics and a host of others.

1.2   Learning Outcomes

By the end of this unit, you will be able to:
*   define visual impairment
*   mention at least 5 causes of visual impairment and explain them.
*   write brief history of visual impairment in relation to Nigeria
*   classify the history of visual impairment into three stages

- rate prevalence of visual impairment in Nigeria in comparison with some other countries like USA

1.3   Main Content

1.3.1 Definition of Visual Impairment

Visual impairment has been viewed by various people based on their perceptions, disciplines and the effects it imposes on them. Millais (2010) saw it as the condition of lack or reduction in visual perception due to physiological or neurological factors. Eniola (2008) categorized persons with visual impairments as those with total blindness, those with low vision and those who are partially sighted. However, the term "Visual Impairment" is now generally accepted as referring to people within the visual range of no sight at all to useful but defective vision, rather than the more strictly categorical terms of "blind", "low vision" or "partially sighted" (Nkangwung, 2010).

Total blindness is the inability to discriminate light from dark, or the total inability to see. Total blindness is otherwise known as legal blindness, and has visual acuity of 20/200 or less in the better eye after the best possible correction with glasses (Heward, 2004).

Low vision is a severe visual impairment with minimal visual function after correction. It can be increased through the use of optical aids and environmental modifications (Corn & Ryser, 1989). Students with low vision learn from vision and other sense. Functional vision will depend on factors such as lighting, size of print or objects, and distance. Low vision is characterized by visual acuity of 20/200 to 70/200 (Snellen) or 6/18 to 6/60 in the better eye after the best possible correction or a field of vision between 20 to 30 degrees (WHO, 1992).

Individual with partial sightedness would be able to use the sight to move about, but may not be able to use it for academic task. The category is based on the simultaneous consideration of the three aspects of vision namely; visual acuity, field of vision and visual functioning. In a broad sense, visual defects into loss of clear vision, central vision or peripheral vision. All these looses are considered by measuring visual acuity, field of vision and level of visual functioning.

Visual acuity refers to the ability of the eye to see details. The visual acuity for distance is measured as the maximum distance at which a person can see a certain object, divided by the maximum distance at which a person with normal eyesight can see the same object. Thus a visual

acuity of 6/60 means that the person examined can see, at a distance of 6 meters, the object which a person with normal eyesight would be able to see at 60 meters. If vision is so impaired that to see the biggest E of the E-chart, the person has to come within 6 meters or even nearer, he is considered blind. The simplest method of testing visual acuity is to see whether the person can count fingers at a distance of six meters (6 Mts).

Field of vision refers to the extent which both eyes can easily see in front. The normal field of vision is 180 degrees in front of eye. It is determined by the Confrontation Test in which mapping is done on a chart having concentric circles marked upon it. The simplest method of testing is to bring snapping finger from the side of the ear to the front, move it up and down, and mark the position where the person can see the finger.

Visual functioning relates to the condition of the eye. It is determined by the experience, motivation, needs and expectation of each individual in relation to whatever visual capacity is available to satisfy curiosity and accomplishment of activities for personal satisfaction. The visual functioning refers to the degree to which/ability of a person to use vision for all daily activities.

1.3.2 Causes of Visual Impairment

Visual impairment is a condition that is found in every corner of the globe, and which causes vary from place to place. It can affect a person at any particular age or stage in one's lifetime. The causes of visual impairment may be right from developmental stages in the womb before birth, a condition called prenatal causes. It could be at birth (perinatal) as well as later in life (Post-natal condition). Examples of causes of visual impairment would therefore be discussed under three stages mentioned:

Pre-Natal Causes. This may be as a result of hereditary factors which may affect the cornea, lens, retina, optic nerve and other muscles or organs of sight. It could also be as a result of infections or diseases from pregnant mother. Such diseases include syphilis or gonorrhea, German measles (rubella) malformation or dislocation of the lens or any of the refractive media and muscles of the eye during developmental stages of the foetus could lead to visual impairment. Also important is the diet of the mother during pregnancy, if a pregnant mother is malnourished, smoking or abusing drugs, it could lead to visual impairment in the new born baby.

Peri-Natal Causes: These are causes of visual impairment during birth. They include the wrong use of forceps during delivery, delay or prolonged labour, veneral diseases of mother could affect the child's eye as he/she is passing out of the mother's canal.

Post – Natal Causes: These are things that result into visual impairment in a child after birth. They include hormonal imbalance, infectious diseases such as small pox, chicken pox, scarlet fever, trachoma, epilepsy, onchocerciasis (river blindness), measles, cataract, glaucoma, strabismus, retinitis pigmentosa among others (Olukotun, 2003). Accident and injuries involving the organs of sight can also results in visual impairment.

Apart from diseases, physiological and pathological causes, the Nigerian traditional culture believes in different causes of visual impairment, for instance, havoc from evil spirit and witches, prolonged gaze at nakedness of an opposite sex, punishment for past sins committed by parents, anger of the gods and the violation of traditional norms (Osinuga, Adebiyi and Ajobiewe; 2004). Traditional or cultural causes according to Osinuga et al have no scientific proof.

1.3.3 History of Visual Impairment

Since the prehistoric age of man's existence, conditions of disabilities have been with man. One of these conditions include visual impairment. Like other categories of disabilities, visual impairment has inspired various treatments based on perceptions of the people. These treatments range from negative to positive across the ages. Although the condition of visual impairments was perceived differently by people at different phases of history, however the nature of the condition remains the same. This realization has called for the need to deal proactively with the condition through formal education. This earlier conviction led to the widespread establishment of special institutions, some of which cater for the needs of persons with visual impairments. Some of these found their ways to missionaries in earnest in the 1940's.

However, the possibility of educating them looks more of mirage than reality. Obani (2004) avers that some cultures still view people with disabilities and handicaps as having been cursed. In a developing country like Nigeria, where the literacy level is around the halfway mark, there are still widespread primitive and superstitions beliefs about handicaps. To him, people with disabilities are very likely to be wrongly perceived and therefore treated. It is essential at this point to shed light on the historical progression of education of persons with visual impairment from the earliest time to the present under the following stages in Nigeria.
- The Pre-Missionary Stage
- The Missionary Stage
- The Post-Missionary Stage

The Pre-Missionary Stage
The pre-missionary stage dates back as far as the advent of the missionaries in Nigeria. The actual missionary impact on education in Nigeria dates back to 1840. Before this time, the blind was mistreated by most primitive societies in the world then. The Western Education was not concerned with Special Education in Nigeria until a century later.

The Missionary Stage (1940 – 1970)
After the 2nd World-War there was a dramatic turnaround in the education for persons with visual impairment. Their story changed; the first school for the blind was established in Gindiri by Sudan Interor Mission in 1953. Also, in 1962, Pacelli School for the Blind was established by the Catholic Mission under Archbishop Taylor. The nation began to witness the birth of many special schools for the blind. Even though during this period, education system witnessed various educational ordinances but all were silent on Special Education.

The Post Missionary Stage (1970 to date)
The missionaries played major role in the establishment of special schools and in the growth of Special Education in Nigeria. Nigeria government started to involve in the education of persons with disabilities as from 1970. Zindif (1997) opines that complete involvement in the education of the disabled by government did not take place until the 1970s when the then Head of States, Major General Yakubu Gowon declared government's interest in the education of the disabled. He directed that all the state Ministries of Education must establish Units for Special Education so as to strengthen the existing schools. Today, elements of Special Education are being taught in our Colleges of Education and some Universities' Faculty of Education. A lot of improvements are being made in Special Education especially in the education of persons with visual impairment (Adebiyi, 2007).

1.3.4 Prevalence of Visual Impairment

Throughout the world, approximately 314 million people live with visual impairment. Out of which, 45 million are totally blind. However, this aggregate did not mirror individual country's statistics on prevalence. For instance, of this summation, 87% live in developing countries (WHO, 2010). This disparity between the global south and north are not unrelated to barriers to eye care which are consistent across most demographic groups. On the other hand, the differences in prevalence of blindness between the different countries in Africa and Asia could be due to differences in the causes of blindness, access to eye care services, or differences in life expectancy. Therefore, the quality of the few local eye care services, financial barriers and a widespread lack of eye care

knowledge present major challenges for eye care provision, and readily predetermine each country's prevalence level of visual impairments.

For example, while the United States of America recorded 3.3 million adults of age 40 and above are having one visual impairment or the other, a developing country such as Nigeria recorded 4.25 million adults of the same age as its prevalence level of visual impairment (Kyari, Murthy, Gudlavalleti, Sivsubramaniam, Gilbert, Abdull, Entekume and Foster, 2009). The WHO global data on blindness for 2002 categorized Nigeria along with a group of other countries in the region as having an estimated prevalence of blindness of 9% among those aged 50 years and 1% for the population of all ages. In particular, the rate of blindness in Nigeria is consistently high in all Nigerian states with 10.2% in Delta State as the least and 26.3% in Yobe State as the highest.

Aside the different level of economic growth as a probable factor, age is also a leading factor in some country's prevalence level of visual impairment. For instance, a Unite States report established that rapid increase in visual impairment is not unconnected with the aging process of the population. In Nigeria, the magnitude of blindness among adults aged 40 years and for all ages was estimated. Based on survey findings, it is estimated that 1.13 million individuals aged 40 years are currently blind in Nigeria. The North West, being the zone with the largest population, harbours the largest number of adults with blindness in Nigeria (28.6%). It was also established that 2.7 million adults aged 40 years had moderate visual impairment and an additional 0.4 million adults had severe visual impairment. Thus, a total of 4.25 million adults aged 40 years in Nigeria suffer moderate or severe visual impairment or blindness. Though, there is a high frequency of risk among women, the recent findings did not establish age as a major predicator in the prevalence of visual impairment in Nigeria (Kyari, et al, 2009).

The following are the prevalence rates of the common visual impairments in Nigeria as identified by the Nigeria National Blindness and Visual Impairment Survey 2005 – 2007.
- Cataract: The prevalence of cataract blindness was 1.8% (95% CI: 1.57 – 2.05)
- Glaucoma: 16.7% (prevalence 0.7%; 95% CI: 0.6 – 0.9) - Corneal Scarring: from all causes was responsible for 7.9% of blindness 84% of blindness was due to avoidable causes.
- Uncorrected refractive errors were the commonest causes of mild and moderate visual impairment (77.9% and 57.1% respectively) being responsible for visual impairment in 2.46 million adults in Nigeria (i.e acuity of <6/12 – 6/60)

- "Operable" Cataract (i.e. visual acuity of <6/60) affects 400,000 people and glaucoma has caused blindness in a further 150,000 adults.

The prognosis on the prevalence of visual impairment in relation to the major causes of visual impairment by the next decade was not encouraging. According to Nigeria National Blindness and Visual Impairment Survey 2005 – 2007, by the year 2020 the number of adults with operable cataract will increase by 43% to 600,000 assuming that the incidence of severe visual impairment and blindness due to cataract and cataract surgical coverage remain unchanged over the next 12 years.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. When an individual exhibits his or her inability to discriminate light from dark, or the total inability to see one can say that, such a person is suffering from
   A. Partial blindness
   B. Astigmatism
   C. Total blindness
   D. Hyper ametropia

2. This is not among the stages of the causes of visual impairment.
   A. Pre-natal
   B. Peri-natal
   C. Post-natal
   D. Infancy

3. The history of special education can be categorized under the following except
   A. Pre-missionary stage
   B. Missionary stage
   C. Post-missionary stage
   D. Dark stage

1.4   Summary

In this unit, you have learnt about who the visually impaired persons are. You have also learnt about different categories of and degrees of visual impairment. You have been exposed to possible causes and symptoms of visual impairment.

we have learnt and defined visual impairment as people within the visual range of no sight at all to useful but defective vision rather than the more strictly categorical terms of "blind" "low vision" or "partially sighted". We also discussed brief History of Education of learners with visual impairment. The prevalence of visual impairment was discussed. By now you should be able to identify various causes of visual impairment as before, during and after birth.

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1.6   Possible Answers to SAEs

1.   Total blindness
2.   Infancy
3.   Dark stage

UNIT 2   CHARACTERISTICS AND EDUCATIONAL APPROACHES OF VISUAL IMPAIRMENT

Unit Structure

2.1   Introduction
2.2   Learning Outcomes
2.3   Main Content
       2.3.1   Characteristics of Visual Impairment
       2.3.2   Educational Approaches and Consideration for Visual Impairment
2.4   Summary
2.5   References/Further Readings/Web Resources
2.6   Possible Answers to Self-Assessment Exercises within the content.

 2.1   Introduction

Students who are blind differ from those who have low vision. They also have individual differences. We should remember that no one set of characteristics fits all. For example, learners with low vision read print and can access the general education curriculum alongside their peers without disabilities.

In order to enhance effective teaching for the visually impaired, the visually impaired learners must be given training skills in listening, Braille etc. the teacher should understand the child, visual functioning. Also develops a predictable and understand system to initial communication.

 2.2   Learning Outcomes

By the end of this unit, you will be able to:

- state the characteristics of visual impairment in relation to type of visual loss, severity, age of onset and environmental experiences.
- enumerate the educational approaches and considerations for learners with visual impairment
- mention the components of unique curriculum.

 2.3   Main Content

2.3.1 Characteristics of Visual Impairment

Visual impairments have characteristics some of which imposes certain constraints on the individual's developmental tasks. However, the degree of this constraint depends on the type of visual loss, severity, age of onset, intellectual ability and environmental experiences. The lack of vision or reduced vision may result in delays or limitations in motor, cognitive and social development. Without visual input, an infant may not be motivated to reach and move toward interesting objects in the environment. As soon as the infant with a visual impairment finds it exciting to hear sound, he or she will begin to reach and move toward the objects in the environment that make sound. This does not occur until several months later, since hearing sounds does not motivate toward objects as soon as seeing objects does.

Cognitively, the child who has a visual impairment cannot perceive objects in the environment beyond his or her grasp, including those that are too large or too small or are moving. While use of other sense enables the child to obtain information about the environment, a cognitive limitation does exist in the range and variety of experiences.

Socially, a child with a visual impairment is limited in interaction with the environment. The child cannot see the facial expressions of parents, teachers and peers; cannot model social behaviours through imitation; and sometimes is unaware of the presence of others unless a sound is made. While touch provides direct information, it is often socially unacceptable. The older child is limited in the ability to orient to environmental cues and travel freely. For more information on Characteristics of visual impairment click here

2.3.2 Educational Approaches and Considerations

It is the current practice, especially in developed countries, that students with visual impairments are being mainstreamed successfully into regular classes for many years in spite of their condition. They receive instruction from specially trained teachers in the additional skills necessary to increase independence. The Unique curriculum (otherwise called curriculum plus) for students who are blind includes reading and writing through the use of Braille, Typewriting, Listening skills, Personal Social and Daily Living Skills, Orientation and Mobility, career education, and instruction in the use of special aids and equipment. In addition to these areas, students with low vision and visual limitations may need instruction

in the efficient use of vision and in the use of optical aids, assistive technology and alternative learning materials.

However, since educational services for children with visual impairment vary according to individual needs. Residential schools, or regular classroom (inclusive settings) with special assistance may be an appropriate educational approach for individual students. Based on the characteristics of learners with visual impairment, the educational approaches and considerations should reflect the essence of Individualized Educational Plan (IEP), which advocate those individuals should be allowed to progress at their own rate, through equal accessibility to instruction without the barrier of disability (Scholl, 1986).

Considering the peculiarity of this group, intervention approaches by both parent and teacher should focus on active participation of the child in all activities. Because children with visual impairment may not be able to learn by watching what is going on around them, they must learn "by doing" and interacting with their environment. Interventions should focus on the development of contingency awareness and the intrinsic motivation and rive of the very young infant and the development of the physical skills that are necessary for the child to move out and explore. Children with visual impairments should be given the opportunities to participate in all the activities that they encounter. If a child cannot participate independently, explore ways that he can be assisted through the activity, allowing him to participate and complete the tasks appropriate to his level of development.

Also, there is the need to concretize concepts as much as possible, since the learner's condition implies minimal or zero response to visual stimuli. At all time the teacher should make as explicit auditory inputs as possible, even for the low vision children. For a totally blind child or a child who cannot see enough to imitate, the teacher may need to move the child through an activity to demonstrate what he wants the child to do. When demonstrating a new skill, it is easier to be behind the child so that the teacher's body is in the same orientation as the children. following the demonstration, the child should be allowed to practice the concept too.

Braille: Braille is a system of communication that is written in raised dots and perceived through the tactual sense (sense of touch). It is made up of elements called Braille cell. The Braille system was introduced in the nineteenth century in France by Louis Braille. We have the literary Braille code, the Nemeth Code and a Unified Braille Code.

Slate and Stylus: It is a method of writing in Braille in which the paper is held in a slate while a stylus is pressed through opening to make indentation in the paper.

Listening Skills: Listening skills play an unparallel role in the life of children with visual impairment. Listening gives opportunities for reaching the visually handicapped certain concepts like the sounds of wild animals, Trucks and even the flood of traffic. Listening skills assist the visually impaired in mobility and orientation. It is essential therefore, that proper education should be given to children with visual impairment on this.

Mobility and Orientation: Ability to move gracefully and knowing one's environment is important. In order for children with visual impairment to be mobile he/she should be giving training in mobility and orientation. This includes the use of long cane, guide dogs, human guide.

Technological Aids
A lot of technological devices are accusable for the visually impaired individual to learn one of such devices is Kurzweil 1000; others are computer system (Use of JAWS) software.

       Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. These are among the ways through which visually impaired can be trained except
A. Braille,
B. Typewriting,
C. Listening skills, and
D. Signs

2. The visually impaired learner cannot be affected in the following ways
A. Cognitively
B. Metaphysically
C. Socially
D. Psychologically

3. The method of writing in Braille in which the paper is held in a slate while a stylus is pressed through opening to make indentation in the paper is known as

A. Slate and Stylus
B. Braille writing
C. Technological Aids
D. Modern Braille Stylus

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2.6   Possible Answers to SAEs

1.   Signs
2.   Metaphysically
3.   Slate and Stylus

UNIT 3 REHABILITATION OF THE VISUALLY IMPAIRED

Unit Structure

3.1 Introduction
3.2 Learning Outcomes
3.3 Main Content
    3.3.1 Definitions
    3.3.2 The Visually Impaired and Vocational Education
    3.3.3 Types of Rehabilitation Programme
    3.3.4 Community Based Rehabilitation
    3.3.5 Persons Involved in Rehabilitation
    3.3.6 Workshops and Employment Opportunities for the Visually Impaired in Nigeria
3.4 Summary
3.5 References/Further Readings/Web Resources
3.6 Possible Answers to Self-Assessment Exercises within the content

3.1 Introduction

The visually impaired are often marginalized in Nigeria just like any minority group. This marginalization may arise from prejudices, stereotyping attitudes of people towards them and socio-economic deprivation. People with special educational needs have hitherto lived their lives so to speak watching from sidelines while medical professionals, educationists, social workers and scientists actually run their lives.

It is a fact that persons with special need have access to socio economic rights as others but in reality, they are denied access to existing social services and economic support. Most individual with special need is denied access to adequate information that could improve their socioeconomic conditions. Therefore, in order to improve the living standards of individuals with visual impairment, vocational rehabilitation is necessary. Rehabilitation of learners with visual impairment is an avenue of making them to be self-actualized.

3.2   Learning Outcomes

By the end of this unit, you will be able to:

- define Rehabilitation in your own words
- mention and explain what is meant by Community Based Rehabilitation (CBR).
- itemize challenges facing rehabilitation of the visually impaired in Nigeria.

3.3   Main Content

3.3.1 Definition

Rehabilitation is a practical aspect of Special Education that assists in restoration of handicapped persons to the maximum usefulness of which is capable physically, mentally and vocationally.

However, the visually impaired are persons with any limitation for normal visual functioning that occur as a result of visual disorder. This includes the partially sighted, the blind and individuals with low visions. Various authors have defined rehabilitation in different ways, especially from professional point of view. Eni-Olorunda (2001) quoting World Health Organization (WHO) committee (1981) defines rehabilitation as all measures to reduce the impact of disabling and handicapping conditions and to enable the special need and challenged individual to achieve social integration. Therefore, vocational rehabilitation involves bringing a person with special needs back to near normal life, as much as possible through a vocation.

3.3.2 The Visually Impaired and Vocational Education

The human eye plays a vital role in anything we do. Generally, the thinking in most quarters is that if any suffer sight loss, one has become useless. To such a person, life is assumed to be meaningless. But in the field of Special Education this presumption is not valid. This is perhaps why Obani (2003) declares that "there are no handicapped persons, only that person that are made handicapped by poor perception, negative attitude and the reluctance of society to adjust and accommodate people with special needs.

3.3.3 Types of Rehabilitation Programmes

Rehabilitation programmes for children with special needs can be classified as follow.

3.3.3.1 Psychological Rehabilitation

By the time a child is declared medically blind, automatically there are bound to be reaction and counter reaction from parents and the immediate family. Guilt feelings may ensue from the parents. This situation if not well managed can lead to separation or divorce. It is essential therefore for the parents to understand themselves. The parents need to educated to be educated and counselled on the education of learners with visual impairment.

3.3.3.2 Medical Rehabilitation

This involves team of medical personnel. It also includes all medical attention and services rendered to the blind after being identified and certified as having problem with sight. The doctors refer such patents to experience ophthalmologists for proper diagnoses. After all diagnosis had been completed and there is no improvement then the ophthalmologist has the right to certify an individual blind.

3. 3.3.3 Educational Rehabilitation

After the medical aspect of rehabilitation has failed to correct the sight of the child by an ophthalmologist an appropriate educational programme should be in place so that the child will not be a liability in life. An ideal educational programme for the blind should first be in the nursery school where they are exposed to learning and other daily living activities such as dressing, toileting, brushing of teeth, bathing, washing, eating etiquette. After the nursery school the child is expose to primary school education. Secondary school education is the next, here provisions are made for remedial and supportive services for the blind child in the resource room of that institution to complement the work of the classroom teacher.

Of course, the blind child who performs excellently in his/her academic work in the secondary school has the opportunity of proceeding to the tertiary institution. Such blind students may gain admission to the University, Polytechnic, College of Education, etc.

3.3.4 Community Based Rehabilitation (CBR)

This is a concept that assist the visually impaired for example to be rehabilitated in their environment. Community Based Rehabilitation can be defined as "a concept that involves the entire community whereby the resources of that community are used to improve the living standard of the disabled and the handicapped persons themselves including their families. It is also a way of integrating persons with disabilities into their communities.

3.3.5 Persons involved in Rehabilitation

The following are principal agents in rehabilitation of the visually impaired.

(a)   Rehabilitation Teachers
     The Rehabilitation teacher counsels the blind and his parents in respect of adjustment to blindness. He/she also guides the blind to learn necessary skills in a particular centre.

(b)   Rehabilitation Counsellor
     The role of a counsellor in rehabilitation centre cannot be overemphasized. Counsellor assists children with special need to overcome the problems and adjustment to the new situation. Olukotun (2003) avers that parent of children with special need in the society face a lot of psychological, social, economic and emotional problems because of the conditions of their disabled children.

1.3.6 Workshops and Employment Opportunities for the Visually Impaired in Nigeria

There are different kinds of workshops available for persons with visual impairment. These are as follows shelter workshop. This type of workshop is tailored towards the employment of blind individuals who are not capable of competing with the sighted. The purpose of the workshop is to provide them with some sort of income. Actually, shelter workshop is an avenue for blind persons of low intelligence.

Training Workshop: This kind of workshop assist and trains blind individual; it also prepares them for a job.

Production Workshop: This exposes the blind persons to various types of vocations. This is a way of empowering them. It will assist them to hold key positions in firm or in industry. They can be given training to the poultry keeping foot-mats, flower vases, cane and mosaic materials.

The blind can also benefit from different skill professions such teaching, music, law, Agriculture, Administration etc. also from semi skilled professions, telephone operators, typists, stenographers and others.

Self-Assessment Exercises 1

Attempt the following questions in not more than five (5) minutes.

1. The practical aspect of Special Education that assists in restoration of handicapped persons to the maximum usefulness of which is capable physically, mentally and vocationally is termed.

A. Refurbishing
B. Rehabilittation
C. Rehabilitation
D. Restructuring
2. The following are types of rehabilitation programmes in special education except
A. Psychological
B. Medical
C. Educational
D. Village

3. The following are principal agents in rehabilitation of the visually impaired.

A. Rehabiltation Teacher and counsellor
B. Government administrators and counsellors
C. Rehabilitation Tutor and Counsellor
D. Rehabilitation Teacher and Counsellee

3.4   Summary

In this unit, you have been exposed to meaning of rehabilitation as a practical aspect of Special Education that assists in restoration of handicapped persons to the maximum usefulness of which is capable physically and vocationally. We also discussed types of rehabilitation such as psychological, medical, educational and community-based rehabilitation. Light was shed on the agents of rehabilitation and how the visually impaired can benefit from rehabilitation through different workshops.

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3.6   Possible Answers to SAEs 1

1.   Rehabilitation
2.   Village
3.   Rehabilitation Teacher and Counsellor.