

COURSE TITLE: EDUCATING INDIVIDUALS WITH DIVERSE LEARNING NEEDS

COURSE CODE: EBS 252

UNIT ONE:

INTRODUCTION TO INCLUSIVE EDUCATION

1.0 INTRODUCTION

Education is a fundamental human right. In recent times there has been increasing need to recognize this right for children with special educational needs and disabilities (now differently-able learners). The education of children with special educational needs and disabilities has a long history, from segregation to integration, and to mainstreaming. What is currently recognized globally is “*Inclusive Education*”. According Dreyer (2017) the term ‘Inclusive education’ has become a commonly used buzz phrase however, Mitchell (2005) argues that inclusive education is one of the most dominant and controversial issues confronting educational policy-makers and professionals around the world. Dreyer (2017) highlighted two most fundamental concerns in education today: 1) The quest for excellence in teaching; and 2) The intensive effort to offer equal opportunities for all learners. These are as a result of the increasing evidence that the traditional understanding of teaching is becoming obsolete in the face of increasing numbers of learners from diverse cultural and linguistic backgrounds with different abilities and educational needs in today’s classrooms.

Although the move towards inclusive education originated within disability discourse, it is now recognized that inclusive education is much broader than special education, and should therefore not be limited to learners who have disabilities. According to Mitchell (2005) inclusive education is underpinned by the philosophy that all students belong and can learn in regular schools and classrooms. Gadabgui (n.d.) reports from literature that children who learn together, play together, share resources together and live happily together. This highlights the Salamanca statement and framework for action (1994) which states that: “*Regular schools with inclusive orientation are the most effective means of combating discrimination, creating welcoming communities, building an inclusive society and achieving education for all.*”

Barriers to learning may be internal (within individual) and/or external (social environment) and therefore inclusive education should not be seen as a change in the way special education is

provided, but rather as an opportunity to *transform the whole school* as a system. It is accordingly essential that this transformation is addressed through the development of a whole-school policy for inclusive education (Stakes & Hornby, 2000).

1.1 Definition of the concept “Inclusive Education”

Despite its international recognition and acceptance, the concept “Inclusive education” defies a single universally acceptable definition. This is partly because inclusive education has been contextualised in different countries and in different social, cultural, political and economic contexts. Although there is no universally accepted definition of inclusive education, there is a growing international consensus as to the principal features of this multi-dimensional concept. With regard to students with disabilities, these include the following: entitlement to full membership in regular, age-appropriate classes in their neighbourhood school; access to appropriate aids and support services, individualized programmes, with appropriately differentiated curriculum and assessment practices.

Mitchell (2005) argues that the scope of inclusive education varies in literature. While some writers limit it to the education of students with disabilities and thus focus on the intersection between special and regular education, others take a broader, education for all, perspective, arguing that all disadvantaged students – such as those from poverty backgrounds, ethnic minorities, isolated rural communities and, in some cultures, girls – should fall within the purview of inclusive education. Okyere and Adams (2003) stated that “Even though current trends in special education practices in relation to the provision of educational facilities focus on inclusion, there is of clear consensus about a definition of inclusion” (p. 43).

Despite the differences in conceptualisation of inclusive education, the common denominator is the recognition and valuing of diversity in educational institutions. Inclusive education thus implies eliminating barriers and improving access, participation and progress (achievement) among all learners regardless of their diversity in cultural, linguistic and socioeconomic backgrounds, sensory abilities, physical characteristics, intellectual functioning, social and emotional behaviours, and speech and language characteristics. This is highlighted by the UNESCO 1994, Salamanca Statement and Framework for Action that “...schools should *accommodate all children regardless of their physical, intellectual, social, emotional, and*

linguistic or other conditions. This should include disabled and gifted children, street and working children, children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalized areas or groups.”

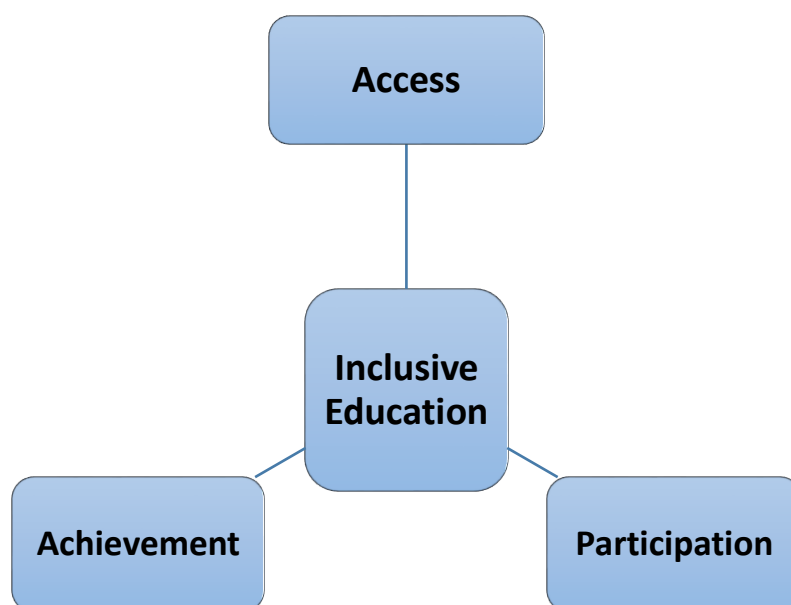
The following are some definitions put forth by some authors:

1. Tichá, Abery, Johnstone, Poghosyan, and Hunt (2018) considered inclusive education as a continuous process of systemic reform that envisages changes in teaching and the curriculum, school buildings, classrooms, play areas, transport, policies and strategies in education with a vision to provide all students with an equitable and participatory learning experience and the environment that best corresponds to their requirements and preferences. At the core of inclusive education is the human right to education.
2. According to UNICEF (2017), an education system is inclusive if it includes all students, and welcomes and supports them to learn. No-one should be excluded. Every child has a right to inclusive education, including children with disabilities.
3. Inclusive education has also been recognized as “a fundamental human right of all learners” and “a principle that values the well-being of all students, respects their inherent dignity and autonomy, and acknowledges individuals’ requirements and their ability to effectively be included in and contribute to society” (the United Nations, 2006).
4. “Inclusive education means that all students within a school regardless of their strengths or weaknesses, or disabilities in any area become part of the school community” (King, 2003, p. 152). Students attend the same schools as siblings and neighbours and are members in the general education classroom, being provided with the support needed to learn within that environment and from the general curriculum (King, 2003). Inclusion is built on the principle that all students should be valued for their exceptional abilities and included as important members of the school community (Causton-Theoharis & Theoharis, 2008).
5. According to Ankutse (n.d.) inclusive education is a process of increasing the participation of all students in schools including those with disabilities. It is about restructuring the cultures, policies and practices in schools so that they respond to the diversity of students in their locality. Inclusive education focuses on those groups which, in the past were excluded from educational opportunities such as children living in poverty, those from ethnic and linguistic minorities, girls (in some societies), children from remote areas, those

with disabilities or other special educational needs, and the gifted and the talented children. Particularly those with disabilities are often the most marginalised, both within education and society in general.

6. UNESCO views inclusion as “a dynamic approach of responding positively to pupil diversity and of seeing individual differences not as problems, but as opportunities for enriching learning” (UNESCO, 2005).

Considering the definitions provided above, it is evident that **inclusive education** is an approach to schooling in which students with many different kinds of disabilities and learning needs are educated in classes with non-disabled and typically developing students. It is apparent from the views of various authors that inclusive education rests on three arms; *improving access*; *participation*; and *progress* for all learners regardless of their differences (Tichá, Abery, Johnstone, Poghosyan, and Hunt, 2018).



Access

This entails removing all barriers (physical, social, economic, structural, and attitudinal) that hinder students with diverse learning needs from participating in the regular school. Thus, ensuring that students can as much as possible participate effectively in the regular school. This involves structural reformation of the school system accessible to diverse learners including the curriculum, instructional strategies, support materials and assessment practices. Essentially, access entails: 1) ***Presence*** (*extent to which pupils attend lessons in mainstream classes in local*

schools and communities); and 2) **Acceptance** (*the extent to which staff and pupils welcome all pupils as full and active members of the school*).

Participation

Similar to access, all students have the right to actively participate in school and in their classes. Participation refers to the extent to which all pupils contribute in all the school's activities. Such active participation will take special planning on the part of teachers. In some situations inclusive education has been misconstrued for physical placement of students with disabilities and special educational needs in the regular school. Inclusion goes beyond physical placement to include active participation in all school and class activities both curricular, co-curricular and extra-curricular activities. Mitchell (2005) argues that inclusive education goes far beyond mere physical placement (sometimes referred to as 'locational' or 'proximity integration'), but instead involves attention being paid to all aspects of schooling – curriculum, assessment, pedagogy, supports, and so on. No student should be side-lined in school or class activities because of their disability or other characteristics.

Achievement/Progress

Achievement implies the extent to which all pupils make progress in academic skills and in their social and emotional development. Inclusion goes beyond simply encouraging the presence of students with disabilities in regular classrooms. All students should be expected to make progress in their school. The difference between an inclusive and a special education model is how student evaluation is used. In a special education model, if students are not making progress, it is assumed to be the result of a student's impairment or shortcoming, and special provisions are made for the student. In an inclusive setting, if a student is not making progress, teachers and administrators look at the school, the system and the classroom to determine what types of barriers are preventing the student from learning. Once these barriers are identified a plan of action is put in place to help the student progress.

Key Elements of Inclusion (UNESCO, 2005)

1. ***Inclusion is a process.*** It has to be seen as a never-ending search to find better ways of responding to diversity. It is about learning how to live with difference and learning how to learn from difference. Differences come to be seen more positively as a stimulus for fostering learning, amongst children and adults.

2. ***Inclusion is concerned with the identification and removal of barriers.*** It involves collecting, collating and evaluating information from a wide variety of sources in order to plan for improvements in policy and practice. It is about using evidence of various kinds to stimulate creativity and problem-solving.
3. ***Inclusion is about the presence, participation and achievement of all students.*** ‘Presence’ is concerned with where children are educated, and how reliably and punctually they attend; ‘participation’ relates to the quality of their experiences and must incorporate the views of learners; and ‘achievement’ is about the outcomes of learning across the curriculum, not just test and exam results.
4. ***Inclusion invokes a particular emphasis on those groups of learners who may be at risk of marginalisation, exclusion or underachievement.*** This indicates the moral responsibility to ensure that those ‘at risk’ are carefully monitored, and that steps are taken to ensure their presence, participation and achievement in the education system (UNESCO, 2005, p.15).

1.2 Rationale for Inclusive Education

- a. **Human rights issues:** The most compelling rationale for inclusive education is based on fundamental human rights. The human rights movement resulted ultimately in the imperative to value and treat everyone equally and according to need. Education is a fundamental human right, as enshrined in the Universal Declaration of Human Rights (United Nations, 1948). Children with or without disabilities have the same rights to educational opportunities under the United Nations Convention on the Rights of the Child (United Nations, 1989). Segregated education is viewed as potentially violating the students’ rights to appropriate inclusive education in their own local area. It may also limit their capacity to benefit from educational opportunities in the future.
- b. **Exclusion is morally unacceptable:** One of the key arguments in favour of inclusion is that any exclusionary practices are morally unacceptable. It is argued that exclusion in any form may have damaging effects on individuals and groups within society. In cases where exclusion is purported as being, ‘for their own good’, it is noted that it can still result in the lessening of the importance of some students in social terms. The individual or group can become overlooked and come to be treated less favourably by society. As noted earlier, the literature suggests that everybody benefits from inclusion. Advocates suggest that there are many children and young people who do not ‘fit in’ or who perceive themselves as ‘not

fitting in', and that an inclusive school is one where everyone is welcome and everyone 'fits in'. Inclusion, therefore, remains a controversial concept in education because it relates to educational and social values, as well as to our sense of individual worth.

- c. **Benefits to students:** - Several investigations have demonstrated the benefits that can be achieved when children with special needs are provided appropriate educational experiences in regular schools instead of special schools (Okyere and Adams, 2003). While academic gains are reported for those with mild disabilities, those with severe disabilities benefit more from gains in the areas of social competence, communication, and engaged time. If inclusive education is practiced appropriately, positive attitudes are developed towards children with disabilities in inclusive settings. Students learn to understand, respect, and accept their peers with disabilities and vice versa. Inclusive education also prepares children with disabilities for living comfortably and working in their communities and in society as a whole. Research shows that the more time spent in regular public schools as children, the more individuals with disabilities achieved educationally and occupationally as adults. To be accepted in the workplace and in the communities as adults, individuals with disabilities have to learn how to function and perform in the regular world and interact with their peers. It is equally important that their peers also learn how to interact and function with them.
- d. **Avoid the ill-effects of segregation:** - Placement in special schools often make the students develop a feeling of inferiority that affects their performance in the school and the community for the rest of their lives. This sense of inferiority affect the child's motivation to learn and has the tendency to retard their educational and mental development. Other children develop emotional problems due to the separation and isolation from their families.
- e. **Equality:** - Another important rationale for educating children with disabilities in the mainstream is the need for equal treatment of all children whether with or without disabilities. Equal treatment borders on children receiving their education in the mainstream instead of segregated settings.
- f. **Building inclusive societies:** - Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for the majority of children, and

improving the efficiency and ultimately the effectiveness of the entire system (UNESCO, 1994).

Benefits of Inclusion for Students with Disabilities

1. Friendships
2. Increased social initiations, relationships and networks
3. Peer role models for academic, social and behaviour skills
4. Increased achievement of IEP goals
5. Greater access to general curriculum
6. Enhanced skill acquisition and generalization
7. Increased inclusion in future environments
8. Greater opportunities for interactions
9. Higher expectations
10. Increased school staff collaboration
11. Increased parent participation
12. Families are more integrated into community

Benefits of Inclusion for Students without Disabilities

1. Meaningful friendships
2. Increased appreciation and acceptance of individual differences
3. Increased understanding and acceptance of diversity
4. Respect for all people
5. Prepares all students for adult life in an inclusive society
6. Opportunities to master activities by practicing and teaching others
7. Greater academic outcomes
8. All students' needs are better met, greater resources for everyone

1.3 Definition of Terms

1. **Diversity:** - includes all the ways in which people differ, encompassing the different characteristics that make one individual or group different from another. While diversity is often used in reference to race, ethnicity, and gender, we embrace a broader definition of diversity that also includes age, national origin, religion, disability, sexual orientation, socioeconomic status, education, marital status, language, and physical appearance. It also

includes diversity of thought: ideas, perspectives, and values. We also recognize that individuals affiliate with multiple identities. Diversity is also the representation of all our varied identities and differences (race, ethnicity, gender, disability, sexual orientation, gender identity, national origin, tribe, caste, socio-economic status, thinking and communication styles, etc.), collectively and as individuals. These differences may sometimes create barriers towards learning or may facilitate our achievement.

2. **Equity:** - seeks to ensure fair treatment, equality of opportunity, and fairness in access to information and resources for all. Equity is the fair treatment, access, opportunity, and advancement for all people, while at the same time striving to identify and eliminate barriers that have prevented the full participation of some groups.
3. **Inclusivity:** - is the act of creating environments in which any individual or group can be and feel welcomed, respected, supported, and valued to fully participate. An inclusive and welcoming climate embraces differences and offers respect in words and actions for all people.
4. **Exceptionality:** - exceptional individuals are those who deviate from the average or normal children in mental characteristics, sensory abilities, neuromotor and physical characteristics, social behaviour, communication abilities, and multiple handicaps. Such deviation must be of such an extent that the child requires adaptation, modification and alteration or change of school practices or special education services in order for them to develop to their maximum potential.

5. **Impairment**

It is the loss or damage to a part or all of a body organ or systems e.g. loss of an arm due to amputation is referred to as physical impairment, damage to the hearing system an individual is said to have hearing impairment. Impairment can be psychological, physical, sensory and intellectual. It can also be temporary or permanent. It can result from genetic malformation or environmental hazards. E.g. of genetic malformation is Down's syndrome.

6. **Disability**

Disability refers to the loss or greatly reduced ability to perform a function or some functions due to damage or loss of a body part or organ. E.g. movement, communication. A disability therefore limits the ability to perform.

7. **Handicap**

Handicap refers to a problem a person with disability or impairment encounters in interacting with the environment (Heward, 1996). This could be the social, psychological and occupational disadvantaged that result from impairment and disability e.g. a person

with no leg cannot walk. The inability to walk can be a handicap in getting onto the football field to play.

8. Segregation

This is a situation where exceptional children are placed in separate special schools and classes normally in residential institutions where they hardly come into the community to participate in the social life of their community. For example *Dzorwulu Special School in Accra, Twin City Special School in Sekondi-Takoradi, Garden City Special School in Kumasi*.

9. Mainstreaming

In mainstreaming, exceptional children are provided some of their education in the general education classroom. It is a temporal, instructional and social integration, in which exceptional children are provided with special education and related services while they attend regular classes and schools. E.g. of schools that offer a mainstream programme for student with visual impairment are Okuapeman Secondary School at Akropong – Akwapems.

10. Integration

The term integration is similar to mainstreaming. It is a process of educating all students regardless of their physical or mental handicaps alongside their non-handicapped peers. Integrations may take the form of instructional and social integration. Over here, exceptional child in an integration school has to adopt to fit into school.

11. Normalization

It is a process whereby exceptional children are given access to resources of all kinds, such as recreational and vocational resources, physical access to building, equal opportunities to influence their own situations, productive working roles and the chance to be part of the social community.

12. Inclusive Education

This is where exceptional children learn and interact together in the general classroom with their non disable peers. It enables the voice of individuals with special needs to be heard in regular classroom. Here the exceptional pupils do not leave the regular class to receive special service or support. All the requisite provisions are made in the regular classroom setting.

13. Community-Base Rehabilitation (CBR)

The Community-Based Rehabilitation (CBR) there are collaborative efforts aimed at practically helping the disabled to acquire the necessary self-help and daily social skills. Training is given to people with disabilities in their most immediate communities in order to foster their integration much more fully into society as against the practice of segregation institutions.

14. Labeling

Labels are ways that we assign exceptional children with the various categories. For examples, exceptional children are classified into mental retardation, hearing impairment, behavior disorder, gifted and talented etc

Is there the need to label at all? There have been several debate in the uses of labeling. Whiles some authorities support the idea some do not. Those who support argue that; It facilitate the formation of association and pressure groups to champion their rights etc. Those who oppose it are of the view that it is offensive, it magnify individual's weakness etc.

1.4 Historical Development of Inclusive Education

The concept of inclusion is far from new and has its origins in the field of special education and disability (Winter and O'Raw, 2010). During the 19th century, pioneers of special education argued for and helped develop provision for children and young people who were excluded from education (Reynolds and Ainscow, 1994). Much later, governments assumed responsibility for such provision. The twentieth century saw the emergence and development of the field of special education and special schools become very much the norm for pupils with disabilities. The segregated education of children according to their difficulties was seen as essential because they were deemed to be incapable of benefiting from ordinary methods of instruction (Thomas, Walker and Webb, 1998).

Historically, segregated special education was supported by the medical model of disability which views the barriers to learning as being within the child. It was also bolstered by advances in psychometrics. Both of these models facilitated categorisation and separate educational provision according to the pupil's disability. This segregated approach largely went unchallenged for many years. As the field of special education expanded, it became the received and unquestioned wisdom that separate provision was the appropriate and most effective option for meeting the needs of a minority of children while safeguarding the efficient education of the majority (Pijl and Meijer, 1994).

It was only with the rise of the world-wide civil rights movement in the 1960s that the system of parallel provision began to be questioned. As people with disabilities challenged the stigmatising and limiting nature of segregated education, and gave voice to their anger and dissatisfaction, issues of equality of access and educational opportunity gained impetus and integration became centre stage. Political pressure from disability and parental advocacy groups began to change society's values and would ultimately bring legislative changes to reform education. Educators were increasingly exploring ways of supporting previously segregated groups so that they could find a place in mainstream schools. At the same time, the efficacy and outcomes of segregated

education came under scrutiny. Specifically, evidence about the lack of success of segregated provision began to accumulate with such consistency that it could no longer be ignored (Thomas et al., 1998).

Researchers also began to highlight the fact that the special school system selected children disproportionately from racial minorities and socially disadvantaged groups (see Dunn, 1968; Mercer, 1970; Tomlinson, 1981). By the end of the twentieth century there was a growing consensus, resulting from moral imperatives and empirical evidence, that inclusion was ‘an appropriate philosophy and a relevant framework for restructuring education’ (Thomas et al., 1998, p.4). The current emphasis on inclusive education can be seen as another step along this historical road. It is, however, a radical step, in that it aims to transform the mainstream in ways that will increase its capacity for responding to all learners (Ainscow, 1999). The shift towards inclusion is not simply a technical or organisational change but also a movement with a clear philosophy which is rooted in the ideology of human rights: This view implies that progress is more likely if we recognise that difficulties experienced by pupils result from the ways in which schools are currently organised and from rigid teaching methods. It has been argued that schools need to be reformed and pedagogy needs to be improved in ways that will lead them to respond positively to pupil diversity—seeing individual differences not as a problem to be fixed, but as opportunities for enriching learning’ (UNESCO, 2005, p. 9).

Development of Inclusive Education in Ghana

The concept of inclusive education appears recent in Ghana’s educational system however its philosophy has a long history. The concept of inclusive education can be dated back to 1951, where the Accelerated Education Plan and further the 1961 Education Act Free Education were introduced. The Plan and Act lead to the increase in enrolment of students as far as the basic level of education was concerned (Gadagbui, 2008). The Plan and Act was not discriminatory as it accommodated education for all persons including persons with disabilities. This gives the indication that, as far as Ghana is concerned, there has been an existing well-defined legal framework which ensures both persons with and without disabilities in the same classroom under the educational system.

Okyere and Adams (2003) intimated that inclusive education was preceded by the concept of integration or mainstreaming which originated from the United States of America in 1975 and was based on the Public Law 94-142 entitled “Education for All Handicapped Children Act. The Law

was to ensure that all children with disabilities were provided with appropriate education within the “Least Restrictive Environment” (LRE). A similar programme of integrating children with disabilities into regular schools was recommended in Britain by the Warnock Committee in 1978. Interestingly, prior to the passage of the Public Law 94-142 and the recommendations made in the by the Warnock Committee, the need to educate children with disabilities in the regular schools had been recommended fifteen years earlier in the 1960 by a committee set up by the government of Ghana. The committee recommended among other things that children with disabilities should be brought into the general educational system and that they should, where appropriate, be provided with special training facilities in ordinary schools. Unfortunately, this recommendation was not backed by legislation differently from the case in the US and so it was not implemented.

It has been intimated that the passage of the Education Amendment Act of 1962 empowered the Ministry of Education (MoE) to establish a Special Education Division to oversee the provision and education of students with disabilities (Adera & Asimeng-Boahene, 2011). The focus in the 1970-80s was on segregated education which resulted in a significant rise in the number of schools for children with visual, hearing and mental disabilities (Anthony, 2009). Gadagbui, (2008) also outlined that, inclusive education or education for disabled persons has been enshrined in the 1992 Constitution. The education of children and youth with disabilities also was boosted by the passage of the Persons with Disabilities Act (Act 715) in 2006.

The Government of Ghana through the passage of the Disability Law (Act 2006, 715) aims to educate pupils with special education needs in mainstream schools. For instance, article 20(1) indicates that a “person with disability seeking admission into a school or any other institution of learning should not be denied access on account of his or her disability, unless the person with disability has been assessed by the ministries of education health and social welfare and found to be a person who deserves to be in a special school for children with disability” (GOV, 2006). It is interesting to note that Ghana subscribed to the inclusive education agenda since its inception in 1994, until 2015 there was no policy to ensure its effective implementation.

Other strides that were made towards the implementation of inclusive education was the piloting of inclusive education in some selected schools within selected districts of the country. The Ghana Education Strategic Plan (ESP) for the period 2010–2020 set one of its eight policy objectives to ‘improve access to quality education for people with disability’ (p. 14) and has incorporated

various strategies for ensuring the mainstreaming of CWDs in society. The ESP sets the target for, ‘an inclusive education system (to be) achieved by 2015, including girls and boys with non-severe SENs integrated into mainstream schools’ (p. 7) and will also ‘provide special schools or education units or for those severely disabled’ (p. 32). According to the MoE (2013), since the end of 2011, the Inclusive Education (IE) programme has expanded from 29 districts in seven regions, to 46 districts in all ten regions. Currently, Ghana’s inclusive education policy is expected to operate fully in all schools.

Pilot Schools

In an attempt to implement inclusive education in Ghana, some selected schools within some districts with the Greater Accra, Central and Eastern regions were respectively selected as pilot schools in 2003. The table below shows initial pilot schools and their locations.

| Region | District | Location | Schools | Pupils |
|---------------|--------------------|-----------------|----------------|---------------|
| Greater Accra | Accra Metro | Tudu | 4 | 2,046 |
| | Dangbe East | Ada Foah | 3 | 1,208 |
| | Ga West | Amasaman | 3 | 611 |
| Central | Cape Coast | Cape Coast | 4 | 1,839 |
| | Ewutu/Efutu/ Senya | Winneba | 4 | 2,279 |
| | Agona Swedru | Agona Swedru | 3 | 1,304 |
| Eastern | New Juabeng | Koforidua | 4 | 849 |
| | Birim South | Akim Oda | 4 | 1,495 |
| | Yilo Krobo | Somanya | 3 | 1,660 |
| | Manya Krobo | Odumase | 3 | 1,305 |
| Total | | | 35 | 14,596 |

Adapted from Vanderpuye (2013). Piloting Inclusive Education in Ghana: Parental Perceptions, Expectations and Involvement.

1.5 Salamanca Statement and Framework for Action

The Salamanca Statement and its accompanying Framework for Action (UNESCO, 1994) is arguably the single most important international document in the field of special education (Winter and O’Raw, 2010). It is situated firmly in a rights-based perspective on education. Vayrynen, in discussing the Salamanca Statement and the Framework for Action, notes that ‘it provides the clearest and most unequivocal call for inclusive education’ (2000, para. 3). The delegates of the World Conference on Special Education held in Salamanca, Spain in June, 1994, recognized the urgency and the importance of providing education for individuals with special needs within the

regular education system and made the following proclamations which has been considered as the Salamanca Statement:

1. Every child has a fundamental right to education and must be given the opportunity to achieve and maintain an acceptable level of learning.
2. Every child has unique characteristics, interests, abilities and learning needs.
3. Educational systems should be designed and educational programmes implemented to take account of the wide diversity of these characteristics.
4. Those with special educational needs must have access to regular schools, which should accommodate them within a child-centred pedagogy capable of meeting their needs.
5. Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for the majority of children, and improving the efficiency and ultimately the effectiveness of the entire system.

The Framework for Action comprises the following sections:

I. New thinking in special needs education

II. Guidelines for action at the national level

- A. Policy and organization
- B. School factors
- C. Recruitment and training of educational personnel
- D. External support services
- E. Priority areas
- F. Community perspectives
- G. Resource requirements

III. Guidelines for action at the regional and international level.

1.7 International and National Legislations and Policies Related to Inclusive Education

| <i>National Legislations and Policies</i> | <i>International Legislations and Policies</i> |
|---|--|
| The 1992 Constitution of Ghana | World Declaration on Education for All (1990) |

| | |
|--|---|
| The children's Act, 1998 | Standard Rules on the Equalization of Opportunities of Persons with Disabilities (UN, 1993) |
| The Disability Act, 2006 | Salamanca Statement and Framework for Action (UNESCO, 1994) |
| The Education Act, 2008 | UN Convention on the Rights of the Child (CRC)(1998) |
| The National Youth Policy of 2010 | Flagship Initiatives, 2000 |
| The Education Strategic Plan 2010-2020 | The Millennium Development Goals, 2000 |
| | The Dakar Framework for Action, 2000 |
| | UN Convention on the Rights of Persons with Disabilities (2006) |

National Legislations and policies

- 1. The Constitution of the Republic of Ghana (1992):** - Article 25 (1) states that all persons shall have the right to equal educational opportunities and facilities, with a view of achieving the full realization of that right: basic education shall be free, compulsory and available to all. According to article 27 (3), women shall be guaranteed equal rights to training without any impediments from any person.
- 2. The Education Strategic Plan (2010-2020):** - The Education Strategic Plan stipulates that, the Ministry of Education shall —provide education for those with physical and mental impairments, orphans, and those who are slow or fast learners, by including them, wherever possible, within the mainstream formal system or, only when considered necessary, within special units or schools.
- 3. The Education Act 778, (2008):** - The objective of Act 778 enacted in 2008, is to provide for the establishment of an educational system intended to produce well-balanced individuals with the requisite knowledge, skills, values, aptitudes and attitudes. Lift deleted to implementation strategies.
- 4. The National Youth Policy of 2010:** - The theme of the National Youth Policy is—towards an empowered youth, impacting positively on national development. The purpose of the policy is to empower and actively involve the youth of Ghana in productive activities; to enable each Ghanaian youth to develop his or her full potential and self-esteem

and; to inspire the youth to develop the aptitude for creativity, innovation and self-discovery in improving their quality of life.

International Policies and Legislations

Ghana has ascribed to the following international conventions:

- 1. United Nations Convention on the Rights of the Child (1990):** - Ghana was among the first countries to ratify the United Nations Convention on the Rights of the Child (CRC) in February, 1990. Thus Ghana has pledged its commitment to ensure that all children are given the opportunity to exercise their rights.
- 2. UN Convention on the Rights of Persons with Disabilities (2006):** - This convention for which Ghana has ascribed to requires all member states (including Ghana) to ensure equal access to primary and secondary education, vocational training, adult education and lifelong learning for all.
- 3. The Dakar Framework for Action:** - The Dakar Framework for Action, according to UNESCO (2009), paved the way for inclusive education as one of the main strategies to address the challenges of marginalization and exclusion in response to the fundamental principle of EFA, which demanded that all children, youth and adults should have the opportunity to learn.
- 4. World Declaration on Education for All; Jomtien (1990):** - The 1990 World Declaration on Education for All, adopted in Jomtien, Thailand, set out an overall vision to universalize access to education and promote equity by ensuring girls, women and other under-served groups gain access to education.
- 5. Standard Rules on the Equalization of Opportunities of Persons with Disabilities (UN, 1993):** - By this commitment, Ghana is expected to ensure that all obstacles to full participation are identified and remove. Three important objectives of the Standard Rules are:
 - To achieve full participation and equal opportunities;
 - To identify and remove remaining obstacles and;
 - Governments are responsible for the necessary measures.
- 6. Salamanca Statement and Framework for Action (UNESCO, 1994):** - The Salamanca Statement on Principles, Policy and Practice in Special Needs Education (UNESCO,

1994) provides a framework and guidance on developing inclusive education internationally. It enjoins Ghana to:

- Design and implement educational programmes implemented to take into account the wide diversity of these characteristics and needs.
- Ensure that persons with special educational needs have access to regular schools which should accommodate them within a child-centred pedagogy capable of meeting these needs.

7. Dakar Framework for Action (UNESCO, 2000): - The Dakar Framework for Action is affirms the international community's collective commitment to pursue a broad -based strategy for ensuring that the basic learning needs of every child; youth and adult are met within a generation and sustained thereafter. Hence Government of Ghana is expected to

8. The Millennium Development Goals: - The new international targets outlined in the Millennium Development Goals (MDGs) include access to and completion of Universal Primary Education by 2015. However, if marginalised groups of learners, such as those with disabilities, continue to be excluded from primary education, it will not be possible for countries to achieve the MDG on education.

1.8 Models of Inclusive Education

Model 1: Integrated Education Programme (IEP) for Children with Low Vision and Blindness.

Focus on only pupils with low vision and blindness in mainstreams.

- Itinerant teacher supports teachers and pupils.
- 12 basic schools for an itinerant Teacher.
- Pupils are withdrawn for remedial teaching.
- Volunteer teachers appointed for remedial teaching.
- Itinerant Teachers is mobile with motor-bike.
- Itinerant Teacher and Volunteer Teachers are given allowances.
- Pupils live with families at home.
- The head of the mainstream schools assumes responsibility for all children disabled and non-disabled.
- A co-ordinate for the itinerant Teachers monitors activities of the itinerant Teachers.

Model 2: Special School as Home for Pupils with Blindness

- Pupils with blindness are admitted to a special school for the Deaf.
- Pupils are in separate unit-classrooms-to acquire skills in Braille writing and reading; Orientation and Mobility; acquire basic in literacy and numeracy as transition to formal basic schooling; all for two years in the maximum.
- Special Education teachers are appointed for the unit with a unit head.
- Pupils after mastery of skills are admitted to mainstream basic schools near special school.
- Special Education teachers are attached to the mainstream to support pupils and teachers.
- Pupils go home to join families on vacation.
- The head of the mainstream schools assumes responsibility for all the children-disabled and non-disabled.
- Pupils with disability have full access to curriculum.

Model 3: Units for the Intellectually Disabled

- Two unit classrooms built within the premises of mainstream school.
- Special education teachers for the intellectually disabled staff the unit.
- Pupils with intellectual disability are admitted to the unit as day students.
- Pupils stay with their families at home and go to and fro the unit for their education
- Pupils with intellectual disability are taught on separate curriculum drawn for them but interact with their counter-parts for social integration during subjects or activities like dancing, games and sports.

Model 4: Inclusive Schools with Special Education Resource Teacher Support.

- A special education teacher is appointed as a resource Teacher.
- She/he is attached to 2 primary schools (mainstream).
- He/she becomes a member of the staff of the school.
- He/she works to identify all pupils experiencing difficulties in classroom and plan strategies for intervention.
- He/she supports pupils and teachers for quality teaching and learning.
- The head teacher assumes responsibility for all pupils –disabled children with special needs.
- Resource Teacher collaborates with parents, staff of health services and social welfare.
- The District Special Education Officer supervises and monitors activities of resource Teachers.

Model 5: Inclusive Schools without Special Education Resource Teacher Support.

- In district a number of primary schools selected for inclusive education (no criteria used).
- SpED built capacity for inclusive education in the district through;
 - Training of trainers (TOT) workshop.
 - Master trainers train classroom teachers (of 70 schools).
 - Master trainer manual and teacher trainer manual are the main training materials for the TOT and training of teachers respectively.
 - UNESCO teacher education resource pack is also used.
- District Special Education Officer Co-ordinates activities and monitor implementation of IE.
- Focus is on all children facing difficulties in learning
- Classroom teacher teaches all children
- No Special Education Resource Teacher is attached to school/ classroom

Model 6: Hostel Support

- A structure is built to provide hostel facilities for pupils from far.
- Focus is on pupils with low vision and blindness.
- No payment of fees for boarding and lodging.
- Pupils are given admission to hostel.
- Special Education Resource Teachers for the visually impaired are recruited.
- Pupils are taught skills in Braille writing and reading; Orientation and mobility; Basics in literacy and numeracy as transition to formal basic schooling; all for two (2) years at the maximum.
- Pupils are later admitted to a nearby mainstream basic school(s).
- Special education resource teachers are recruited and attached to the basic school to support pupils and teachers.
- Head teacher assumes responsibility for all pupils.
- Classroom teacher teaches all children.

UNIT 2

CHARACTERISTICS AND MANAGEMENT OF INDIVIDUALS WITH DIVERSE LEARNING NEEDS

Introduction

Hornby (2014) has stated that in order to achieve inclusivity in the classroom, all teachers must appreciate diversity and know about the varied characteristics and different types of special educational needs and disabilities (SEND) that are found in schools. They equally need to know how to identify children with SEND and also learn about practical guidelines for teaching them and supporting their learning especially in mainstream schools.

GIFTED AND TALENTED LEARNERS

Gifted and talented students are those with above-average intellectual ability. Giftedness are usually associated with intellectual performance and talented being associated with artistic areas such as drumming, dancing, and dexterity. Gifted and talented students are not typically considered to have special education needs and disabilities (SEND) but may have special needs related to underachievement. For example, some of them may be performing at average levels in school

subjects despite having learning potential that is well above the average. Others may develop behavioural difficulties because they are bored at school or find it difficult to relate to other children of their age (Callahan, 2011; Winebrenner & Brulles 2012).

Gifted and talented children have been described as possessing demonstrated or potential abilities that give evidence of high performance capability in such areas as intellectual, creativity, specific academic or leadership ability, or in the performing or visual arts, and who by reason thereof require services or activities not ordinarily provided by the school. According to Renzulli (1978), the gifted and talented exhibit:

- Above average general intellectual abilities (intellectual superiority)
- A high level of task commitment
- Creativity

Giftedness refers to people with outstanding performance or who show the potential for performing at remarkably high levels of accomplishment when compared with others their age, experience, or environment.

Talented is used to indicate a special ability, aptitude, or accomplishment. This is also the extraordinary capabilities shown in athletic, psychomotor skills, aesthetic, musical and artistic skills.

Prevalence

Federal reports and legislation have assumed that 3% to 5% of the U.S. school population could be considered to have special gifts or talents (Pullen, 2017).

Characteristics of the Gifted and Talented

They are intellectually very adept, exhibiting unusual creativity, artistic, and/or academic abilities. Generally, the gifted students are found to be socially, emotionally, and physically well adapted. Cognitively, they exhibit excellent memories, large vocabularies and broad knowledge base, are curious, tend to challenge the status quo, learn quickly, and persist with a task until it is mastered.

Characteristics

1. They exhibit unusual creativity
2. They are found to be socially, emotionally and physically well adapted
3. Cognitively, they exhibit excellent memories, larger vocabularies and broad knowledge base.
4. They persist with task until it is mastered
5. They have capacity to do logical and abstract thinking.

6. Gifted students are often perfectionist and idealistic.
7. Gifted students may experience heightened sensitivity to their own expectations and those of others.
8. Gifted students are asynchronous
9. Some gifted students are “mappers” (sequential learners), while others are “leapers” spatial learners.
10. Gifted students may be so far ahead of their chronological age mates that they know half the curriculum before the school year begins
11. Gifted children are problem solvers.
12. Gifted students often think abstractly and with such complexity that they may need help with concrete study and test-taking skills.
13. Gifted students who do well in school may define success as getting an “A” and failure as any grade less than an “A”.

Despite their characteristics, the gifted are not without problems. They can be culturally deprived, poorly motivated, and socially inept, be highly critical of the status quo, show uneven development and suffer from any of the sensory or physical disabilities. There is a high rate of dropout in this group of students unless their particular needs are met.

Causes of Giftedness and Talented

There are some youngsters who are born with the capability to learn faster than others those ideas or concepts that modern societies value in children and adults. Such youngsters and their abilities are subject to many social influences and must interact with their environmental context. Therefore, it often becomes difficult to find students with these special talents in a multicultural society. (Gallagher, 2000b, p. 6). Pullen (2017) argues that giftedness isn't something that sets people apart in every way from people who are average. Instead, it refers to specific, valued, and unusual talents that people may exhibit during some periods of their lives. The main factors that contribute to giftedness therefore are really much the same as those that foster any type of behavior, whether typical or exceptional:

1. Genetic and other biological factors, such as neurological functioning and nutrition. Giftedness may be inherited.
2. Social factors, such as family, school, the peer group, and community. This is as a result of stimulation, opportunities, expectations, demands, and rewards for performance all affect

children's learning. How schools can nurture children's giftedness has received too little attention (Robinson, Shore, & Enersen, 2007). Yet the ways in which schools identify giftedness, group children for instruction, design curricula, and reward performance have profound effects on what the most able students achieve. When schools facilitate the performance of all students who can achieve at a superior level in specific areas, giftedness is found among children of all cultural and socioeconomic groups. The environmental factors are important to facilitating the intellectual development of the child. Some of the factors are;

- Availability of resources
- Nature of school attended
- Nature of the family
- Availability of good nutrition and many other factors

Gifted students usually have unusual talent in one or occasionally two areas. Below are six areas where we will find giftedness. No child will be gifted in all six, but some may be in more than one area. Within specific academic ability, students again usually have one or two subjects that they are best in and passionate about.

Creative Thinking

- Independent thinker
- Exhibits original thinking in oral and written expression
- Come up with several solutions to a given problem
- Possesses a sense of humor
- Creates and invents
- Challenged by creative tasks
- Improvises often
- Does not mind being different from the crowd

General Intellectual Ability

- Formulates abstractions
- Processes information in complex ways
- Observant
- Excited about new ideas
- Enjoys hypothesizing
- Learns rapidly

- Uses a large vocabulary
- Inquisitive
- Self - starter

Specific Academic Ability

- Good memorization ability
- Advanced comprehension
- Acquires basic skill knowledge quickly
- widely read in special interest area
- High academic success in special interest area
- Pursues special interest with enthusiasm and vigor

Leadership

- Assumes responsibility
- High expectations for self and others
- Fluent, concise self-expression
- Foresees consequences and implications of decisions
- Good judgment in decision making
- Likes structure
- Well-liked by peers
- Self - confident
- Organized

Psychomotor

- Challenged by difficult athletic activities
- Exhibits precision in movement
- Enjoys participation in various athletic opportunities
- Excels in motor skills
- Well coordinated
- Good manipulative skills
- High energy level

Visual Performing Arts

- Outstanding in sense of spatial relationships
- Unusual ability in expressing self, feeling, moods, etc., through dance, drama, music, etc.

- Good motor coordination
- Exhibits creative expression
- Desire for producing “own products” (not content with mere copying)
- Observant

According to Heward (2000) people with highly gifted have a lot of characteristics which include the following:

1. Acquire, retain and use large amount of information rapidly.
2. Takes sound judgments
3. Relate one idea to other
4. Intense intellectual curiosity
5. Perfectionism
6. Tendency towards introversion
7. Difficulty conforming to the thinking of others. Etc.

Education Provisions

1. Enrichment strategies

Enrichment basically is an approach of making a subject more meaningful or more rewarding for a gifted child, and allows them to work in a more detailed manner. Enrichment provides students with the chance to acquire mastery of standards at a deeper level than what is outlined in the required curriculum.

2. Acceleration strategies

Acceleration implies that academically advanced students will progress faster through the school system than other students. It takes many forms of rapidly moving the child through the academic programme faster. Acceleration can take the following forms;

- Early admission to school
- Grade/class skipping
- Content acceleration
- Curriculum compacting/telescoping

3. Mentorship strategies

4. Use of flexible ability grouping
5. Use of independent study
6. Responsive learning environment

Identification of gifted child

Identification of gifted children is not as simple as it seems. There are several reasons for this. One reason is the heterogeneity of the population. Second is about the unclear definition of giftedness, how can identification procedure be adopted. Thirdly, if it is accepted that a wide range of domains are possible areas for giftedness, then how can we assess them?

However, how to carry out identification for school-age depend on the definition of gifted which the school or district has adopted. That definition needs to be studied carefully and its content put into operation in identifying the gifted children. As with any assessment procedure, it should be ongoing and more than one type of assessment format should be used in identifying the gifted.

The data that permits this assessment can be collected from a variety of sources.

- Observation by the teacher for some of the identifying characteristics
- Achievement and end of year test
- Portfolios of students work
- Teacher nomination based on classroom behavior and academic performance
- Parent nomination
- Peer nomination
- Self-nomination etc.

LEARNING DISABILITIES

Definition

The number of students identified as having learning disabilities has grown in the last few years. This is because many of the children formerly identified as mildly or intellectually disabled have been put in this category. Because this category is fraught with definitional and identification problems, it is very important that educators be very careful in labelling a student learning disabled. It is to be noted that not all children with learning problems have learning disabilities however all children with learning disabilities have learning problems. Learning disability is by far the largest category of special education. About half of all students identified by the public schools as needing special education have learning disabilities (Pullen, 2017). The term *learning disability* was proposed by Samuel Kirk (1963) at a parents' meeting as a compromise because of the confusing

variety of labels in use to describe the child with relatively normal intelligence who was having learning problems. Such a child was likely to be referred to as *minimally brain injured*, a *slow learner*, *dyslexic*, or *perceptually disabled*. The most widely accepted definition is the one proposed by the National Joint Committee of Learning Disabilities (NJCLD, 1998) in the USA. It states that:

Learning disability is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning, or mathematical abilities. These disorders are intrinsic to the individual and presumed to be due to central nervous system dysfunction and may appear across the lifespan. Problems in self-regulatory behaviours, social perception, and social interaction may exist with learning disabilities but do not in themselves constitute a learning disability. Although learning disabilities may occur concomitantly with other handicapping conditions (for example, sensory impairment, mental retardation, serious emotional disturbance,) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction) they are not the result of those conditions or influences.

A similar definition proposed by the Canadian Association for Children with Learning Disabilities (CACLD, 1984) states that:

Specific learning disabilities are a chronic condition of presumed neurological origin which selectively interferes with the development, integration, and/or demonstration of verbal and/or non-verbal abilities. Specific learning disabilities exist as a distinct handicapping condition in the presence of average to superior intelligence, adequate sensory and motor systems, and adequate learning opportunities. The condition varies in its manifestations and in degree of severity. Throughout life the condition can affect self-esteem, education, vocation, socialisation, and/or daily living activities.

Common elements of the Definitions (Criteria for defining learning disabilities)

1. **It is intrinsic or neurological dysfunction:** - that is learning disabilities are due to factors within the individual, not to external factors such as education or environment. Biological and neurological causes of course are very difficult to diagnose.
2. **Heterogeneous group of disorders:** - Individuals with learning disabilities exhibit a wide variety of problems.

3. **There is a discrepancy between performance and potential:** - the student will have difficulty in one or several academic subjects in spite of appearing to be average in intelligence. They are naturally endowed to do well but their performance proves otherwise.
4. **There is developmental imbalances (Intra-individual differences):** - the student may function very well in some areas of development, but not in others. He or she may be very good verbally but be unable to spell. That is the student may seem very bright in some academic pursuits, but very poor in others.
5. **There is usually an exclusion clause which accepts that individuals with learning disabilities can have other** disabilities but excludes that the other disabilities are the primary cause of the student's learning problems.

Prevalence of Learning Disabilities

The incidence of learning disabilities varies from place to place, depending on how diagnosis are made and the degree of severity that is necessary for a person to be labelled learning disabled. Pullen (2017) argues that just under 5% of school-age students are identified as learning disabled, making learning disabilities the largest category of special education by far.

Forms/Types of Learning Disabilities

1. Dyslexia – a person's inability to read
2. Dyscalculia – a person's inability to do mathematics
3. Dysgraphia – a person's inability to write
4. Aphasia – one's inability to speak
5. Apraxia – difficulty making or planning movements when desired.

Classification of learning disabilities

1. Mild learning disabilities – This degree of learning disabilities are not very serious, such pupils can be held
2. Moderate learning disabilities – This calls for intensive assistance
3. Severe learning disabilities – (This is the most serious). Individual needs special support, materials and methods

Characteristics of Learning Disabled

1. Perceptual motor problems – they have problems copying from the board
2. Attention deficits – difficult to pay attention
3. Memory problem – difficult to retrieve information

4. Social problem – have problem interacting with people
5. Language disorders – they may have problems listening to and communicating with others in a coherent manner.
6. Inappropriate social behaviour

Causes of Learning Disabilities

The debate of the causes of LD is still on-going. Some authorities believe that LD is mainly due to CNS dysfunction. Others are of the view that the environment has a role to play in learning disabilities. Heward (1996) indicated that, in every case the exact cause of a child's learning disability is unknown, however, a wide variety of causes have been proposed.

1. **Neurological causes:** - With the advance of neuroimaging techniques, most authorities now believe that central nervous system (CNS) dysfunction underlies learning disabilities. Using these neuroimaging techniques, researchers have accumulated evidence for structural and functional differences between the brains of people with and without learning disabilities, especially reading disabilities. *Structural differences* refer to such things as the size of the various areas of the brain. *Functional* refers to activity in the brain. Findings from these neuroimaging studies have been relatively consistent in identifying structural and/or functional differences in the **left temporal lobe** and areas around it in persons with dyslexia. Though studies do not provide definitive evidence of a neurological basis for *all* students who are identified as learning disabled, however, results have turned out that many people professionals now believe that CNS dysfunction could be the cause of many, if not most, cases of learning disabilities.
2. **Genetic:** - Strong evidence indicates that many cases of learning disabilities are inherited. Learning disabilities can be inherited. Twin studies have shown that learning disabilities can be genetic. Dyslexia (a severe reading disorder in which the individual cannot learn to read or does not acquire fluent and efficiency reading skills) has been found among monozygotic twins.
3. **Chromosomal defects:** - The kind of genes and chromosomes a person inherits plays a role in his intelligence and behaviour. Healthy genes and chromosomes are prerequisite to intellectual development. Genetics are concerned with how traits are passed on from generation to generation by means of genes and chromosomes. Genes and chromosomes are inherited from parents and are found on the male sperm and female ovum. A normal human being has 23 pairs of chromosomes, thus 46 chromosomes in all. The 23rd pair is the sex determining

chromosomes. The male has XY chromosomes whilst the female has XX chromosomes. Defects in the genes or chromosomes can have deleterious effects on the individual. Chromosomal abnormalities include Down's syndrome, Turner's syndrome, Klinefelter's syndrome, and Triple X syndrome. Person's with Down's syndrome experience poor cognitive abilities and low self-esteem. However, it is not clear how defects in genes and chromosomes cause LD, though defects in chromosome 15 is suspected, how the mechanism is transmitted is disputable.

4. **Biochemical Imbalances:** - It is said that the B2 microglobulin gene believed to influence the immune system and male sexual development may help explain why there are more males with reading difficulties than females. This however lacks enough evidence.
5. **Toxins:** - Toxins are agents that can cause malformations or defects in the developing foetus. We discussed **foetal alcohol syndrome (FAS)**, **foetal alcohol spectrum disorders**, and lead poisoning may cause learning disabilities.
6. **Medical factors:** - Several medical conditions can cause learning disabilities. Many of these can also result in intellectual disabilities, depending on the severity of the condition. For example, premature birth places children at risk for neurological dysfunction and learning disabilities (Aarnoudse-Moens, Weisglas-Kuperus, van Goudoever, & Oosterlaan, 2009), and paediatric AIDS can result in neurological damage resulting in learning disabilities.
7. Malnutrition at early stage of development can cause learning disability.

Some specific Learning Disabilities

Reading difficulties

Reading is the act of making meaning from printed and written materials. If there is failure in making meaning. Lewis and Doorlag (1995), find word recognition and word comprehension to be the two sub- skills in reading. Word recognition: Refer to the ability to decode symbols using the word phonetics components or its structure. Word comprehension: refers to the ability to understand what is read.

1. Faulty auditory perception without hearing impairment
2. Slow auditory or visual processing
3. Lack of knowledge of the purpose of reading
4. Failure to attend to critical aspects of the word, sentence or paragraph
5. Failure to recognized that reading is a process

Strategies to use to help children read

1. Select words that have consistent symbol relationship
2. Select words that are short and familiar to children
3. Use peer tutoring
4. Let children play with word games
5. Add some cues to help children decode
6. Begin at a child's level of language development
7. There should be motivation as children read

Mathematics difficulties

Ways to identify mathematics difficulties

1. Confusion in meaning of arithmetical signs
2. Inability to transfer from horizontal present of work to be done in vertical way or vice versa.
3. Difficulties with place value
4. Confusion between hundreds and thousands even teens and hundreds
5. Poor attention span

► Strategies to use to help

- 1. Start from concrete to abstract level.
- 2. Use peer tutoring and cooperative learning technique
- 3. The use of drill to reinforce learning
- 4. Reinforce appropriately
- 5. Give immediate feedback

► Written expressions

- It has to do with the ability to put one's idea into writing. Lewis and Doorlag (1995), Identified the following as skills in written expression. Hand writing, spelling, punctuation and capitalization and language skills as semantics (meaning of words) and syntax (grammar).

- Strategies in teaching written expression

- 1. Teach children how to spell words
- 2. Teach the rules of capitalization and punctuation
- 3. Teach children how to combine sentences using conjunction such as 'and', 'or'
- 4. Give information or input on what they should write about.
- 5. Teach children to draft their ideas, edit and re-write.

Managing students with learning disabilities in Inclusive classrooms

AUTISM

Meaning and Types of Autism

The concept of autism is relatively new especially in the Ghanaian context. It is therefore appropriate for teachers and parents to be familiar with the meaning of the condition. Generally, Autism is a complex developmental disability that typically appears during the first three years of life and is the result of a neurological disorder that affects the normal functioning of the brain, impacting development in the areas of social interaction and communication skills. Autism is a complex neurological disorder of development that lasts through a person's lifetime (The National Institute of Child Health and Human Development, 2005 cited in Garguilo, 2012).

- Okyere and Adams (2003) defined autism as a neurological disorder that interferes with the normal development of the child in the areas of reasoning and communication skills.
- Stainback and Stainback (1996) described autistic children as those who exhibit certain behaviour, including breakdowns in communication, inability to play with other children in a typical fashion, repetitive and stereotyped actions, a desire for sameness, and a seeming lack of awareness or concern for the feelings and desires of people around them.
- Susan (1998) defined autism as childhood disorder marked by deficits in social interaction (such as a lack of interest in one's family or other children), communication such as failing to modulate one's voice to signify emotional expressions), and activities and interests (such as engaging in bizarre, repetitive behaviours).
- Autism is also referred to as Autism Spectrum Disorder and (ASD) is characterized by impairments in communication and social interaction, as well as unusual patterns of behaviours, interests, and activities. The term "spectrum" is used to recognize a range of disorders that include a continuum of developmental severity. The symptoms of ASD can range from mild to severe impairments in several areas of development. Many professionals in the medical, educational, and vocational fields are still discovering how ASD affects people and how to work effectively with individuals with ASD.

Major Types of Autism

The condition known as Autism or Autism Spectrum Disorders have some variations yet with common characteristics. The recognized types of autism spectrum disorder include; Autism, Pervasive Developmental Disorder Not Otherwise Specified (PDDNOS), Asperger's Syndrome, Rett's Syndrome, and Childhood Disintegrative Disorder (Heller's Syndrome). The Table below gives a brief description of these types of Autism.

| Type of Autism Spectrum Disorders | Description |
|--|--|
| Autism | To be diagnosed with autism, a child must exhibit a significant delay in social interaction, such as eye contact or facial expression; a communication delay; behaviours including stereotypical behaviour, such as intense, almost obsessive, preoccupation with objects; the need for routines that are non-functional and ritualistic, such as lining up all the books or food in a certain manner; repeating motor movements over and over, such as finger-popping or hand flapping. |
| Pervasive Developmental Disorder Not Otherwise Specified (PDDNOS) | This diagnosis is also used when the onset of the disorder happens after age three. Of all the classifications used for autism, this is the vaguest and confusing for both parents and teachers. However, this classification allows a child with a few, but not all, of the characteristics of autism to be classified as having autism so that he can receive the needed services. |
| Asperger's Syndrome | Children with Asperger's Syndrome traditionally behave much like children with other types of autism when they are young, in that they will have some difficulty with communication, social interaction, and/or behaviours. However, as they grow into middle school age or in adolescence, they often learn how to socialize, communicate, and behave in a more socially acceptable manner. Most children with Asperger's have normal or above normal intelligence, so they learn new skills as fast or, in many cases, faster than their peers without autism. These children have been described as having difficulty with coordination, vocal tone (they tend to speak in a monotone), depression, violent reactions to change, and they have a tendency for ritualistic behaviours. They may develop intense obsessions with objects or activities. Unlike other children with ASD, these children tend to develop normally in the areas of self-help and adaptive behaviours, but their social skills are often delayed. |
| Rett's Syndrome | Also referred to as Rett's Disorder, is a degenerative disability (it gets worse with time). It begins sometime in the first two years of life and is found almost exclusively in girls. Unlike other types of autism, children with Rett's Syndrome develop normally prior to the onset of the disorder. Characteristics include loss of motor skills, hand-wringing or repetitive hand washing, and a decrease in head growth. Seizures and sleeping disorders also develop in many girls with this disorder. |
| Childhood Disintegrative Disorder | This disorder, sometimes called Heller's Syndrome, is a degenerative condition in which a child may begin to develop |

| | |
|--|--|
| | normally, but, over a few months, will begin to lose the ability or seem to forget how to do things. It usually happens in the areas of toilet training, play skills, language, or problem-solving. This degeneration or loss of skills usually happens between ages three and four. |
|--|--|

Causes of Autism

The causes of autism remain unknown to date (Perko & McLoughlin, 2002). Garguilo (2012) indicated that the aetiology of ASDs is complex but the underlying pathologic mechanisms are unknown. While the precise means are unknown, and it is likely that there is no single cause, genetic contributions and environmental stressors along with abnormal brain chemistry and development are the primary suspected factors. Perko and McLoughlin (2002) citing Ornitz and Ritvo (1985) mentioned that among the causes of autism, the influences of heredity, parental personality, critical or vulnerable periods in infancy, disturbed neuro-physiologic mechanisms, underlying developmental factors and pre-natal circumstances have been considered.

1. Neurological Causes

- ASDs are of neurological or biological origin (Garguilo, 2012; Okyere & Adams, 2003).
- No specific gene marker for autism has yet been identified but several studies of familial factors have suggested a genetic involvement (Perko & McLoughlin, 2002).
- Family studies as well as studies of twins clearly support an underlying genetic vulnerability to ASD (Garguilo, 2012).
- No specific causal factors have yet been linked to neurophysical disorders it has become evident that different types of the disorder (such as congenital rubella, fragile X, and tuberous sclerosis) can lead to behaviours characteristic of autism (Garguilo, 2012).

2. Structural Abnormalities of the Brain

- Neuroimaging studies implicate structural abnormalities of the brain in individuals with ASD (Garguilo, 2012; Okyere & Adams, 2003).
- These lesions are found in the cerebral ventricles, cerebral cortex, cerebellum, and temporal lobes (Garguilo, 2012; Okyere & Adams, 2003).

3. Neurochemical Level Abnormalities

- Elevated levels of chemicals such as serotonin, epinephrine and dopamine in the brain of autistic individuals (Garguilo, 2012; Okyere & Adams, 2003).

Characteristics of Children with Autism

Three broad symptoms exist in almost all children diagnosed with infantile autism: profound and general failure to develop social relationships, language retardation with immediate or delayed echolalia and pronouns reversal, and ritualistic or repetitive activities and stereotyped movements (Okyere & Adams, 2003). Individuals with ASDs exhibit three main broad categories of characteristics which include social, communication, and repetitive and restrictive behaviours (Garguilo, 2012).

1. COMMUNICATION

Communication impairment are more dramatic than social behaviour in autism (Sarason & Sarason, 1989). Their communication characteristics include:

- About half of all children with ASD do not develop speech at all.
- Those who do speak, speech may not be functional or fluent and may lack communicative intent.
- They may simply repeat what is said to them (echolalia).
- Typical communication deficits include delay in spoken language, marked impairment in conversational skills, stereotyped and repetitive use of language, and a lack of spontaneous age-appropriate make-believe or social initiative play in addition to echolalia or “parroting” the speech of others.
- Appropriately 25 to 30 percent of youngsters with ASD begin to use words and then suddenly cease to speak, often between 15 to 24 months of age.
- The development of speech by age 5 or 6 is viewed a positive sign for a good outcome.

Some of the early pre-speech deficits that may facilitate an early diagnosis and the early intervention include:

- Lack of recognition of mother’s or father’s or consistent caregiver’s voice
- Disregard for vocalization (e.g. lack of response to name), yet keen awareness of environmental sounds
- Delayed onset of babbling past 9 months of age
- Decreased or absent use of pre-speech gestures (waving, pointing, or sharing)
- Lack of expressions such as oh! Huh! Etc.
- Lack of interest in or response of any kind to neutral statements.

2. SOCIAL INTERACTIONS

- Impairment in the use of multiple nonverbal behaviours (eye-to-eye gaze, facial expression, body posture, and gestures),
- Failure to develop age-appropriate peer relationships,
- Lack of spontaneous seeking to share interests and achievements with others,
- Lack of emotional or social reciprocity.
- They do not point or show objects of interests to others,
- Show little or no expressed pleasure in interaction,
- Highest-functioning individuals often experiences significant difficulties in developing friendship and relating to others.
- Autistic children seem to live in world of their own, uninterested in other children or their own caregivers (Susan, 1998),
- They have a noticeable lack of awareness of the existence of feelings of others
- They may treat people as though they are objects and are likely to have no empathy for the feelings of others,

3. REPETITIVE AND RESTRICTED BEHAVIOURS

Repetitive and restrictive behaviours characterise individuals with ASDs (Garguilo, 2012). These include preoccupation with at least one stereotyped and restricted pattern of interest to an abnormal degree, inflexible adherence to non-functional rituals or routines, stereotyped and repetitive motor mannerisms, and preoccupation with parts of objects. Generally, they exhibit:

1. Play with toys in the same manner
2. Be rigid about routines or object placements
3. Eat few foods or only foods with a certain texture
4. Small food
5. Be insensitive to pain
6. Be unaware of danger
7. Show unusual attachment to inanimate objects, and
8. Exhibit repeated body movements (hand flapping, rocking, finger licking ect.)

a. Insistence on sameness

- Marked distress is typically experienced over trivial or minor changes in the environment

- Aspects of daily routines can be ritualized
- Obsessive behaviour is frequently displayed
- The requirement to complete self-imposed, required actions is intense
- Stereotype behaviours (rocking, hand flapping) are repeated in cycles difficult to stop (Yekple & Deku, 2014).

b. Unusual behavioural patterns

- Hypersensitive and/or inconsistent behaviours are the response to visual tactile
- Aggression to others is common/particularly when compliance is requested
- Self-injurious or outwardly aggressive behaviours (hitting, biting, kicking, head banging) are common and frequent.
- Extreme social fears are manifested towards strangers/crowds/unusual situations, and new environments
- Loud noise (barking dogs, street noises) can result in startle or fearful reactions
- Noncompliant behaviour to request from others results in disruption to the individual and others (tantrums) (Yekple & Deku, 2014).

4. OTHER CHARACTERISTIC BEHAVIOURS

- Problems with concentration, attention, and activity level, anxiety disorders, and mood or affective disorders, and learning difficulties.
- Concentration and attention problems include hyperactivity, short attention span, impulsivity, stimulus over-selectivity (selective attention).
- Anxiety disorders include self-injurious behaviours, excessive scratching or rubbing, limiting diet to a few eating inedible items (pica), obsessive-compulsive disorders.
- Affective or mood disorders include abnormalities of mood or affect; giggling or crying for no apparent reason.
- Sleeping problems including difficulties in falling asleep, frequent awakening, early morning awakening, bed wetting and
- depression, suicidal ideation, and
- learning difficulties which include uneven achievement, impaired executive functioning,
- poor reading comprehension, inadequate receptive/expressive language skills,
- difficulty generalizing skills or information.

Diagnosis, Identification and Assessment of ASD

A diagnosis of ASD is associated with impairments in communication, social, and behavioural skills, and multidisciplinary assessments in these skill areas will provide information that will be used to determine the extent of the impairments and how the difficulties interfere with the educational process. Accurately diagnosing ASD in a student typically includes the following:

1. Assessments of multiple areas of functioning (intellectual and communication skills)
 2. A review of developmental history, and
 3. Parental input.
- ✓ ASD is diagnosed through the presence or absence of certain behaviours, characteristic symptoms, or developmental delays.
 - ✓ Often several tests may be performed to rule out other medical conditions, such as a loss of hearing that may be causing the social and communication impairments, before considering a diagnosis of ASD.
 - ✓ In many cases, ASD will be diagnosed in children before they begin attending school, often when they are between two and three years of age, although in some cases the child will start school prior to receiving a medical diagnosis of ASD.
 - ✓ Parents often share with health professionals the information provided by educators about concerns related to the development of a child's social, communication, and behaviour skills in the school setting.
 - ✓ This information may assist in the determination of an appropriate medical diagnosis.

(Ministry of Education, Ontario, 2007)

A diagnosis of autism is often made by a psychiatrist using criteria established by the American Psychiatric Association (2000) that focus on communication skills, social interactions, and repetitive and stereotyped patterns of behaviour. In addition, clinicians can use behavioural observation instruments and ask parents and/or teachers to fill out behaviour checklist. Although diagnosis of autism might sound somewhat vague, the behavioural symptoms are so severe and striking that it is actually relatively easy to diagnose (Hallahan & Kauffman, 2006). Assessment process involves structured interviews with parents, observations of the children, and the use of standard tests, checklists and rating scales. Assessment information from various sources will provide valuable information to guide the development of the student's Individual Education Plan (IEP) and assist in the continuous process to determine educationally relevant goals, objectives,

and implementation strategies that are based on the unique learning profile of the individual student.

Treatment Options for Children with ASD

The following treatment options have been suggested by Mayo Foundation for Medical Education and Research (MFMER) for teachers, parents, medical and health professionals as well as therapists.

- **Behaviour and communication therapies.** Many programs address the range of social, language and behavioural difficulties associated with ASD. Some programs focus on reducing problem behaviours and teaching new skills. Other programs focus on teaching children how to act in social situations or communicate better with others. Applied Behaviour Analysis (ABA) can help children learn new skills and generalize these skills to multiple situations through a reward-based motivation system.
- **Educational therapies.** Children with autism spectrum disorder often respond well to highly structured educational programs. Successful programs typically include a team of specialists and a variety of activities to improve social skills, communication and behaviour. Preschool children who receive intensive, individualized behavioural interventions often show good progress.
- **Family therapies.** Parents and other family members can learn how to play and interact with their children in ways that promote social interaction skills, manage problem behaviours, and teach daily living skills and communication.
- **Medications.** No medication can improve the core signs of autism spectrum disorder, but specific medications can help control symptoms. For example, certain medications may be prescribed if the child is hyperactive; antipsychotic drugs are sometimes used to treat severe behavioural problems; and antidepressants may be prescribed for anxiety. Parents and teachers must keep all health care providers updated on any medications or supplements the child is taking. Some medications and supplements can interact, causing dangerous side effects.
- **Other therapies.** Depending on the child's needs, speech therapy to improve communication skills, occupational therapy to teach activities of daily living, and physical therapy to improve movement and balance may be beneficial. A psychologist can recommend ways to address problem behaviour.

- **Use of Applied Behaviour Analysis (ABA):** - The Applied Behaviour Analysis (ABA) approach and its techniques can be used to help children with autism spectrum disorder (ASD) improve their social skills, self-care skills, communication skills, play skills and ability to manage their own behaviour.

Curriculum and Instructional Adaptations for Children with ASD

Perko and McLoughlin (2002) indicated that educators need to gain a better understanding of this diverse and complex disorder so that these students can obtain an adequate education. The emphasis should be on the child's unique needs rather than the desire for intellectual and academic prowess in the school system if the needs of such a child can be met. The following should be adopted by teachers.

1. Teachers must avoid abstract ideas whenever possible. Individuals with ASDs frequently have problems with abstract and conceptual thinking. Some students may eventually acquire a few abstract skills, others never will. The therefore suggests that when abstract concepts must be used, teachers must use visual cues, such as gestures or written words, to augment the abstract ideas.
2. Teachers must avoid speech students might misinterpret. Teachers must avoid idioms, double meanings, sarcasm, and nicknames. Avoid using slang, idioms and sarcastic comments when teaching.
3. Task Analysis. If a pupil doesn't appear capable of learning a task, break it down into smaller steps, or present the task in several different ways (e.g. visually, verbally, or physically).
4. Teachers must assist students with organizational skills. He indicates that individuals with ASDs often have difficulty with organisational skills, regardless of their intelligence and/or age.
5. Autistic children are easily over-stimulated; too many decorations or visual aids can serve to be major distractions. Teachers should aim at an area free from distractions, loud noise and bright lights.
6. Teachers should facilitate group work.
7. Motivating children with autism to want to learn presents an interesting problem for educators.
8. The use of positive reinforcement has been shown to motivate them to learn skills such as language, self-help skills, school-related behaviors, and many others.

Yekple and Deku (2014) and Hallahan and Kauffman (2006) have suggested the following as instructional strategies.

1. Focus attention on the child's specific needs such as functional communication skills, social skills, self-protective skills etc.
2. Be creative, innovative and positive in teaching these children
3. Create an environment that is simple and uncomplicated.
4. Create a predictable environment built upon consistent routines.
5. Teach students how to read and respond to social cues.
6. Encourage other students in the class to engage the student with autism.
7. Create rules for engaging in discussions or activities that fall within the student's limited interests.
8. Use structured positive reinforcement to shape desired social interactions and behaviours.
9. Divide instructional tasks to meaningful components and create overt, external stimuli to guide the student.
10. Create academic experiences that build upon success.
11. Teach students coping mechanisms to use when confronted with stressor anxiety.
12. Concentrate and build upon the child's strengths.

Management

1. Find child's interest and cue in but vary activities to make him find interest in other areas.
2. When changing from one activity to the other, let him be aware and fix a picture or an activity with his/her name and photograph attached to it.
3. Hold him, embrace him, play with him and encourage same in class.
4. Repeat words and the rhythm or sing the words repeatedly.
5. Encourage him to imitate the good models. Use a lot of legos and toys to build language around him.
6. Give individualized attention in class. Concrete teaching using teaching and learning materials. Be very practical and involve the child.
7. Engage the services of Speech and Language therapist.
8. Use simple instructions and accept one-word sentences or more.
9. Remember to give positive reinforcements.
10. Intermittently use familiar songs, drum with rhythm and dance with them.

11. Use Augmentative Communication Board so that those who have severe problems with communication can point at the pictures (pictures of breakfast items, classroom needs, pictures of toilet etc.)
12. Guide parents in managing the autistic child; parents also need counseling in order to carry-over the school activities at home and report to you the teacher.

INTELLECTUAL DISABILITIES

The concept of intellectual disabilities represents a contemporary change from *mental retardation*, initially coined as an option to *feeble-mindedness* (Polloway & Lubin, 2009). The intellectual disabilities term has become the preferred referent for individuals across the lifespan.

Intellectual disability is a disability that occurs before age 18. People with this disability experience significant limitations in two main areas; ***Intellectual functioning*** and ***Adaptive behaviour*** (the use of everyday social and practical skills) (AAIDD, 2010). The current AAIDD definition states that: *Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behaviour as expressed in conceptual, social, and practical adaptive skills. This disability originates before age 18.* (AAMR Ad Hoc Committee on Terminology and Classification, 2010, p. 1)

Intellectual disability is diagnosed through the use of standardized tests of intelligence and adaptive behavior (and cannot be determined by IQ alone). People with intellectual disabilities who are provided appropriate personalized supports over a sustained period generally have improved life outcomes. In fact, many adults with intellectual disabilities live independent, productive lives in the community with support from family, friends and agencies.

Criteria for identify intellectual disabilities

Intellectual disabilities are identified base on certain conditions or criteria. The three conditions below are necessary for describing who are intellectually challenged.

1. Sub-average general intellectual functioning
2. Deficits in adaptive behaviours
3. Age of occurrence (those between birth and 18 years)

Classification of Intellectual Disabilities

Intellectual disabilities can be categorized base on two classifications systems. These are

1. IQ/Traditional Classification
2. Support system classification

IQ/Traditional Classification

This classification of persons with mental retardation is based on the use of Intelligence Quotient (IQ). There are four major categories with the used of this classification

$$IQ = \frac{Menta\ Age}{Chronological\ Age} \times 100$$

In determining the IQ level, two of most commonly used tests are the:

1. Wechsler intelligent scale for children 3rd edition
2. Stanford-Binet scale

This classification of individuals with intellectual disabilities is based on the use of the intelligence Quotients (IQ). The degree of severity reflecting intellectual impairment is as follows in Table 1 below:

Table 1: Intelligence Quotient and levels of severity

| Degree | IQ Level | |
|----------|---------------------------|------------|
| Mild | 50-55 to 70 approximately | Educables |
| Moderate | 35-49 to 50-55 | Trainables |
| Severe | 20-25 to 35-40 | Custodials |
| Profound | Below 20 or 25 | Vegetables |

- Educable :children with intellectual disability can learn simple task
- Trainable: children with intellectual disability can be trained to take care of themselves.

Severity unspecified: this is when the person's intelligence cannot be tested by standard test (Adapted from America Psychiatric Association, 1994).

Ozaji and Mugu (1999) asserts that the mentally handicapped children have significantly sub-average intelligence with deficits in adaptive behaviours such as communication, feeding,

grooming etc. their levels of functioning are much more below their peers. They function below two standard deviations (steps) of the average person's intelligence quotient (IQ) as shown on the normal bell curve.

Support System Classification

This system of classifying intellectual disabilities is based on the amount of support that an individual with mental challenges needs in order to cope with instruction. The supports are the resources and individual strategies necessary to promote the development, education, interests, and personal wellbeing of a person with mental retardation. Supports can be provided by a parent, friend, teacher, psychologist, and doctor or by any appropriate person or agency.

Among the categories include;

- i. **Intermittent** – This the support based on “as needed basis.” It is characterized by episodic nature, person not always needing the support(s) or short-term supports needed during life transitions.
- ii. **Limited** – requires certain support consistently over time, though not on a daily basis. The support needed is of a non-intensive nature.
- iii. **Extensive** - need daily support in some aspects of living. This individual need regular and daily support to live normally in the environments (e.g. daily home-living support).
- iv. **Pervasive**- requires constant, high-intensive support for all aspects of life. Daily extensive support, perhaps of a life-sustaining nature, is required in multiple environments.

Prevalence of Intellectual Disability

From a purely statistical-theoretical perspective and relying only on scores on IQ tests, 2.27% of the population would be intellectually disabled; however, only about 1% of the school-age population is identified as intellectually disabled (Pullen, 2017). The reason for the lower prevalence in the schools is probably due to (1) schools using low adaptive behaviour as well as low IQ as criteria and (2) a preference by some to identify students as learning disabled rather than intellectually disabled because they perceive a learning disability to be less stigmatizing.

Characteristics of Intellectual Disabilities

Some of the major areas in which people with intellectual disabilities are likely to experience deficits are attention, memory, language, self-regulation, motivation, and social development (Pullen, 2017). However, a given individual with intellectual disabilities may not display all of these characteristics.

1. **Attention:** - The importance of attention for learning is critical. A person must be able to attend to the task at hand before he can learn it. Often attending to the wrong things, persons with intellectual disabilities have difficulty allocating their attention properly.
2. **Memory:** - People with intellectual disabilities have widespread memory difficulties, but they often have particular problems with working memory. **Working memory** involves the ability to keep information in mind while simultaneously doing another cognitive task. Trying to remember an address while listening to instructions on how to get there is an example of working memory.
3. **Language:** - Virtually all persons with intellectual disabilities have limitations in language comprehension and production. The exact types of problems depend largely on the cause of their intellectual disabilities (Abbeduto, Keller-Bell, Richmond, & Murphy, 2006). Individuals with intellectual disability experiences delayed speech and language. The most common problems are articulation, voice and stuttering. In some cases complete absence of expressive language can occur.
4. **Self-regulation** is a broad term referring to the ability to regulate one's own behaviour. People who are intellectually disabled also have difficulties with metacognition, which is closely connected to the ability to self-regulate (Bebko & Luhaorg, 1998). **Metacognition** refers to a person's awareness of what strategies are needed to perform a task, the ability to plan how to use the strategies, and the evaluation of how well the strategies are working. Self-regulation is thus a component of metacognition.
5. **Motivation:** - A key to understanding the behaviour of persons with intellectual disabilities is to appreciate their problems with motivation (Switsky, 2006). Having usually experienced a long history of failure, they are likely to believe that they have little control over what happens to them. Therefore, they tend to look for external rather than internal sources of motivation.
6. **Social Problems:** - People with intellectual disabilities are prime candidates for a variety of social problems. In addition to having difficulties making friends due to inappropriate behaviour, they often lack awareness of how to respond in social situations (Snell et al., 2009). One particular problem of responding in social situations that has received a great deal of research, especially in individuals with intellectual disabilities who have higher IQs, is gullibility. **Gullibility** can be defined as the "tendency to believe something, usually a highly questionable statement or claim, despite scanty evidence" (Greenspan, Loughlin, & Black, 2001, p. 102). Other Characteristics of Individuals with Intellectual Disabilities include:

7. **Intellectual functioning:** - The primary characteristic of the intellectually disable is below-average intellectual functioning. They are deficient in all intellectual abilities namely: learning, memory, attention, generalizing incidental learning and abstract learning. Persons with intellectual disability are weak in all academic skills including maths, written expression, reading, speaking and listening.
8. **Adaptive behaviour:** - Adaptive behavior is the capability of individuals to take care of themselves and to relate to others around them. They experience poor self-care skills, self-help and survival skills, coupled with emotional problems e.g. restlessness, inattentiveness, withdrawal and destructiveness. (They are deficient in social and personal competences).
9. **Physical characteristics:** - Research has shown that physiological development is associated with severity of retardation. The mildly and moderately retarded individual may not exhibit gross physical problem as the profoundly retarded. They have fine and gross motor deficits e.g., poor eye hand coordination, walking, jumping, perceptual motor skills etc.

Identification of Children with Intellectual Disabilities

- Delayed speech and language acquisition
- Delays in habit training (toileting)
- Memory problems
- Difficulty understanding how things work
- Difficulty understanding social cues
- Difficulty discerning the consequences of personal actions
- Problem-solving deficits
- Difficulty thinking logically
- Learns and develops slowly
- Difficulty learning at school
- Inability to do daily self-care skills
- Taking longer time to remember familiar people
- Social skill deficits

Academic Difficulties of Children with Intellectual Disability

- Lack of interest in learning activities or tasks relating to academic work
- Unwillingness to complete task
- Lack of interest in initiating activities
- Unwillingness to take responsibility

- Difficulty in self-direction
- Lack task readiness
- Difficulty in maintaining attention
- Difficulty with selective attention
- Short attention span

Causes Intellectual Disabilities

1. Prenatal Causes

- **Genetic and Chromosomal defects:** - Recent research suggests that many cases of mild intellectual disabilities are caused by specific genetic syndromes (Pullen, 2017). Chromosomal disorders include Down syndrome, Fragile X syndrome, Prader-Willi syndrome, and William's syndrome. Down syndrome and William's syndrome typically result from chromosomal abnormalities; Fragile X syndrome and Prader-Willi syndrome are inherited. Down syndrome is linked to relatively low expressive language, relatively high visual-spatial skills. William's syndrome is linked to relatively low visual spatial skills, relatively high expressive language skills. Fragile X syndrome is linked to relatively low short-term memory, relatively high adaptive behaviour. Prader-Willi syndrome is linked to relatively low auditory processing, compulsive eating, and relatively high visual processing.
- **Metabolic disorders:** - Phenylketonuria (PKU) is an example of a cause of intellectual disabilities due to an inborn error of metabolism.
- **Rhesus factor (Rh) incompatibility**
- **Brain malformation:** - Microcephalus and hydrocephalus are examples of disorders of brain malformation. Microcephalus refers to a relatively smaller size of the skull while hydrocephalus is extreme large size of the skull.
- **Problems during pregnancy** - Use of alcohol or drugs by the pregnant mother can cause intellectual disability. In fact, alcohol is known to be the leading preventable cause of intellectual disability. Recent research has implicated smoking in increasing the risk of intellectual disability. Other risks include malnutrition, certain environmental toxins, and illnesses of the mother during pregnancy, such as toxoplasmosis, cytomegalovirus, rubella and syphilis.

Prenatal screening for Down syndrome and other conditions is available.

2. Perinatal causes include

- Prematurity and low birth weight predict serious problems more often than any other conditions (Pullen, 2017).
- Difficulties in the birth process such as temporary oxygen deprivation (Anoxia).
- Low birth weight.
- Infections such as syphilis and herpes simplex.
- Birth injuries may cause intellectual disabilities.

3. Postnatal causes

- Motor accidents (causing head injuries)
- Childhood diseases such as whooping cough, chicken pox, measles, and Hib disease that may lead to meningitis and encephalitis can damage the brain,
- Injuries such as a blow to the head or near drowning.
- Lead, mercury and other environmental toxins can cause irreparable damage to the brain and nervous system.
- Poverty and cultural deprivation - Children growing up in poverty are at higher risk for malnutrition, childhood diseases, exposure to environmental health hazards and often receive inadequate healthcare. These factors increase the risk of intellectual disability. Also, children in disadvantaged areas may be deprived of many common cultural and educational experiences provided to other youngsters. Research suggests that such under-stimulation can result in irreversible damage and can serve as a cause of intellectual disability.

How the Expectant mother can avoid the risk of giving birth to a Child with Intellectual Disability.

1. Pay regular visit to antenatal clinic
2. Seek medical assistance when sick
3. Should avoid self-medication
4. Should eat balanced diet

Prevention of Intellectual Disabilities

During the past 30 years, significant advances in research have prevented many cases of intellectual disability. For example:

- New-born screening and dietary treatment for intellectual disability due to phenylketonuria (PKU)
- New-born screening and thyroid hormone replacement therapy for intellectual disability due to congenital hypothyroidism

- Anti-Rh immune globulin to prevent Rh disease and severe jaundice in new-born infants
- Measles vaccine for intellectual disability due to measles encephalitis thanks to the
- Rubella vaccine for cases of intellectual disability caused by German measles during pregnancy (Alexander, 1998).

Other interventions have reduced the chance of intellectual disability.

- Removing lead from the environment reduces brain damage in children.
- Preventive interventions such as child safety seats and bicycle helmets reduce head trauma.
- Early intervention programs with high-risk infants and toddlers have shown positive effects on intellectual functioning.
- Finally, early comprehensive prenatal care and preventive measures prior to and during pregnancy increase a woman's chances of preventing intellectual disability.
- Dietary supplementation with folic acid, taken before and during pregnancy, reduces the risk of neural tube defects.
- Women who have phenylketonuria (PKU) should be counselled to go on a restricted phenylalanine diet three months prior to pregnancy to prevent intellectual disability in their baby.

How can intellectual disabilities be prevented during childhood?

Intellectual disability can be prevented during childhood by knowing the causes and taking steps to keep children safe and healthy. These steps include:

- Childhood immunizations to protect children from at least six diseases that can lead to brain damage. These include measles, mumps, pertussis (whooping cough), Hib disease, varicella (chicken pox), and pneumococcal disease.
- Injury prevention to avoid brain damage, such as using bicycle helmets and safety seats and seat belts in automobiles; preventing near-drowning; preventing falls and protecting babies from severe shaking.
- Newborn screening to identify treatable genetic conditions.
- Reducing the incidence of Reye's syndrome caused by giving medicines containing salicylate (aspirin); instead, using medicines containing acetaminophen (such as Tylenol) to reduce the brain damage caused by Reye's syndrome.
- Reducing exposure to lead, mercury and other toxins in the environment that are known to cause brain damage.
- Protecting children from household products that are poisonous.

Diagnosis of Intellectually Disability

- ❖ **Identification during prenatal:** *Amniotic test* is done on 12 weeks old pregnancy (amniocentesis) to determine if the foetus has down' syndrome.
- ❖ **Identification at birth:** *Apgar score* a first screening/assessment done on a new born baby 1 minute after birth to check pulse, respiration, muscle tone, colour and responds to stimulation.
- ❖ **Identification at childhood:** At school going age, mostly in the case of mildly intellectual disable, the child is seen incapable of competing successfully in the activities in the classroom, and perform poorly in academic subject.

Curriculum for Individuals with Intellectual Disabilities

There are five categories stated by Avoke, Hayford & Ocloo (1999:23)

1. Motor skills: - These involve gross motor skills comprising large muscles in movement of legs, hands body. For example, walking, jumping, throwing, lifting, kicking, clapping, rolling etc.
2. Social and Personal skills: - These comprise communication, acceptable behavior and interpersonal relationship dressing, mobility, solving problems.
3. Pre-vocational/occupation skills: - These pre-vocational skills enable the children to have hands-on experience; they learn to explore; learn by doing to acquire skills and to discover what they can do best. The emphasis of the pre-vocational skills is to train the children for occupational competences as in making doormats, tablemats, chair backs, envelopes, etc.
4. Academic Skills: - These basically involve reading writing, arithmetic or numeracy such as, money management skills.
5. Daily Living Skills: - These skills comprise activities done every day (e.g. bathing, combing, dressing up; lacing shoes and buttoning shirts (Avoke, M., Hayford, S.; &Ocloo, M.; 1999).

Instructional adaptations for the Intellectually Disabled

- Present brief and simple tasks
- Use task analysis
- Begin at the child's level
- Emphasis should be placed on their self-help, social, and communication skills
- Build a lot of repetition into the learning activities
- Encourage group work and cooperative learning
- Build learning activities such that success is possible

- Recognize and reinforce every effort of the child

EMOTIONAL AND BEHAVIOUR DISORDERS

Defining emotional and behavioural disorders has always been problematic. Professional groups and experts have felt free to construct individual working definitions to fit their own professional purposes (Kauffman & Landrum, 2006, 2009b; Landrum, 2011). No one has come up with a definition that all professionals understand and accept. There is general agreement that emotional or behavioural disorder refers to the following:

- Behaviour that goes to an *extreme*—not just slightly different from the usual
- A problem that is *chronic*—one that does not quickly disappear
- Behaviour that is *unacceptable* because of social or cultural expectations

The Federal Definition The federal rules and regulations governing the implementation of IDEA define the term *emotionally disturbed* as follows:

- The term means a condition exhibiting one or more of the following characteristics over a long period of time and to a marked extent, which adversely affects educational performance:
 - An inability to learn that cannot be explained by intellectual, sensory, or health factors;
 - An inability to build or maintain satisfactory relationships with peers and teachers;
 - Inappropriate types of behaviour or feelings under normal circumstances;
 - A general pervasive mood of unhappiness or depression; or
 - A tendency to develop physical symptoms or fears associated with personal or school problems.

The National Mental Health and Special Education Coalition proposed an alternative definition in 1990. The coalition's proposed definition is as follows:

- The term emotional or behavioral disorder means a disability characterized by behavioral or emotional responses in school so different from appropriate age, cultural, or ethnic norms that they adversely affect educational performance.

Emotional disorders refer to disturbance of one's emotions to a greater extent. They refer to disturbed or distorted feelings to such an extent that it affects the child's feelings about himself and their interaction with others. They usually express feelings of worry, unhappiness, depression, rapid mood swings. Behaviour disorders on the other hand may be considered as unusual patterns of behaviour in a particular society or situation considering the age, gender roles and culture.

- **Frequency** – That is how often a particular behaviour takes place.

- **Magnitude** – That is the degree with which the behaviour occurs (severity).
- **Duration** – That is how long the behaviour is engaged in.
- **Stimulus control** – That is the stimulus that prompts the particular behaviour.
- **Topography** – That is the shape of the behaviour.
- **Context** - That is the time, place and the situation.

CLASSIFICATION

Researchers have identified two broad, pervasive dimensions of disordered behavior: externalizing and internalizing. **Externalizing behavior** involves striking out against others (see Furlong, Morrison, & Jimerson, 2004). **Internalizing behavior** involves mental or emotional conflicts, such as depression and anxiety (see Gresham & Kern, 2004). Some researchers have found more specific disorders, but all of the more specific disorders can be located on these two primary dimensions. Individuals may show behaviors characteristic of both dimensions; the dimensions are not mutually exclusive. A child or youth might exhibit several behaviors associated with internalizing problems (e.g., short attention span, poor concentration) and several of those associated with externalizing problems as well (e.g., fighting, disruptive behavior, annoying others). Actually, **comorbidity**—the co-occurrence of two or more conditions in the same individual—is common. Few individuals with an emotional or behavioral disorder exhibit only one type of maladaptive behavior. Children may exhibit any kind of troublesome behavior with any degree of intensity or severity. That is, any kind of problem behaviour may be exhibited to a greater or lesser extent; the range may be from normal to severely disorder.

Characteristics

- An inability to learn which cannot be explained by intellectual, sensory or health factors.
- An inability to build or maintain satisfactory inter-personal relationship with peers and teachers.
- A general pervasive mood of unhappiness or depression.
- Inappropriate types of behaviour or feelings under normal conditions.
- Warning Signs of Emotional/behaviour Disorder
- Restless
- Inability to concentrate on task
- Failure to make and keep friends
- Unprovoked aggression

- Irritability and bad-temperedness
- Excessive day dreaming
- They show destructive and vandalism
- Punishment means nothing to them
- Lack of reading and mathematics skills

Forms/Classification of Behaviour and Emotional Disorders

1. *Conduct disorders* e.g. disruptive, bossy, violation of rules, disrespect, fights, temper tantrum, hyperactivity (restless) impulsive, extrovert etc.
2. *Personality disorder* e.g. withdrawal, inattentive, shyness unhappiness, hypo activity, guilt, depression etc.
3. *Socialized aggression* e.g. gang membership, substance abuse, sexual irresponsibility
4. *Psychotic behaviour* – express far-fetched ideas, has repetitive speech, show strange and unusual behaviour
5. *Motor excess* – restless unable to sit still, unable to relax, talkative
6. *Immaturity* e.g. extreme passivity, short attention span, preference for younger playmates

Causes of Behaviour and Emotional Disorders

Biological factors: - *Genetic*

Environmental factors (Parental neglect and abuse; Peer group influence; Mass media; Poor school climate; Poverty; Illness; Drug abuse or misuse in children; Broken homes-death of a parent or separation or divorce; Adult unreasonable expectation of children; Home conflict; Over-permissiveness in a home-the children are allowed to do whatever the like.

CAUSES

Researchers have attributed the causes of emotional or behavioural disorders to four major factors:

1. **Genetic/Chromosomal/Disease:** - Behaviours and emotions may be influenced by genetic, neurological, or biochemical factors, or by combinations of these. Studies on monozygotic/ identical twin have implicated genetic factors. Chromosomal abnormalities such as Down's syndrome have also been implicated. Prenatal exposure to alcohol can contribute to many types of disability, including emotional or behavioural disorders. All children are born with a biologically determined behavioural style, or temperament. Although children's inborn temperaments may be changed by the way they are reared, some people have long believed that children with so-called difficult temperaments are predisposed to develop emotional or behavioural disorders. There is no one-to-one

relationship between temperament and disorders, however. A difficult child might be handled so well or a child with an easy temperament so poorly that the outcome will be quite different from what one would predict on the basis of initial behavioral style (Keogh, 2003). Other biological factors besides temperament (e.g., disease, malnutrition, and brain trauma) can predispose children to develop emotional or behavioral problems. Substance abuse also can contribute to emotional and behavioural problems. Except in rare instances, it isn't possible to determine that these factors are direct causes of problem behaviour (see Kauffman & Landrum, 2009b; Landrum, 2011).

2. **Family Factors:** - Even in cases of severe emotional or behavioural disorders, it isn't possible to find consistent and valid research findings that allow blaming parents. Very good parents sometimes have children with very serious emotional or behavioural disorders, and incompetent, neglectful, or abusive parents sometimes have children with no significant emotional or behavioural disorders. The relationship between parenting and emotional or behavioural disorders isn't simple, but some parenting practices are definitely better than others. Educators must be aware that most parents of youngsters with emotional or behavioural disorders want their children to behave more appropriately and will do anything they can to help them. These parents need support—not blame or criticism—for dealing with very difficult family circumstances.
3. **School Factors:** - Some children already have emotional or behavioural disorders when they begin school; others develop such disorders during their school years, perhaps in part because of damaging experiences in the classroom. Children who exhibit disorders when they enter school may become better or worse according to how they are managed in the classroom. School experiences are no doubt of great importance to children, but as with biological and family factors, we can't justify many statements about how such experiences contribute to the child's behavioural difficulties. A child's temperament and social competence can interact with the behaviours of classmates and teachers in contributing to emotional or behavioural problems. A very real danger is that children who exhibit problem behaviour will become trapped in a spiral of negative interactions, in which they become increasingly irritating to and irritated by teachers and peers. In considering how teachers might be contributing to disordered behaviour, they must question themselves about their academic instruction, expectations, and approaches to behaviour management. Teachers must not assume blame for disordered behaviour to which they are not contributing, but

it's equally important that teachers eliminate whatever contributions they might be making to their students' misconduct (see Kauffman & Brigham, 2009; Kauffman & Landrum, 2009b; Kauffman, Pullen, Mostert, & Trent, 2011).

4. **Cultural factors:** - The cultural environment where a person lives influence their behaviour. Aside from family and school, many environmental conditions affect adults' expectations of children and children's expectations of themselves and their peers. Adults communicate values and behavioural standards to children through a variety of cultural conditions, demands, prohibitions, and models. Several specific cultural influences come to mind: the level of violence in the media (especially television and motion pictures), the use of terror as a means of coercion, the availability of recreational drugs and the level of drug abuse, changing standards for sexual conduct, religious demands and restrictions on behaviour, and the threat of nuclear accidents, terrorism, or war. Peers are another important source of cultural influence, particularly after the child enters the upper elementary grades (T. W. Farmer, 2000; T. W. Farmer et al., 2001).

Models for Managing Behaviour Disorder

1. Medical Model: - increasing evidence shows that medications are helpful in addressing the problems of many or most students with emotional or behavioural disorders if they receive state-of-the-art psychopharmacology (Konopasek & Forness, 2004).
2. Psychodynamic model (Dealing with unresolved conflicts through *psychotherapy*)
3. Humanistic model e.g. counselling
4. Behavioural model (unlearning inappropriate behaviours)

Managing students with emotional and behaviour disorders in Inclusive classrooms

ATTENTION DEFICIT HYPERACTIVITY DISORDERS (ADHD)

One developmental disorder that is intrusive and interferes with typical childhood development is Attention Deficit Hyperactivity Disorder (ADHD). ADHD has been described as a neurodevelopmental disorder manifested in developmentally inappropriate levels of inattention, hyperactivity, and impulsivity (Nigg & Barkley, 2014). It has also been described as a persistent disorder characterized by significant problems with attention, impulsiveness and over activity (American Psychiatric Association, 1994). Literature seems to be consistent with the description of ADHD as children who exhibit three kinds of problems:

- Overactive behaviour (hyperactivity)
- Impulsive behaviour (impulsivity)
- Difficulty in paying attention (Inattention)

Hyperactivity: - is exhibited in racing around the classroom, inability to sit still, interfering with other children's activities. They are likely not to be very popular with other children, and may be seen as naughty or unwilling to learn.

Impulsive behaviour: - Being impulsive means acting without thinking about the consequences. Children with ADHD may be impulsive in many ways, such as saying or doing the first thing that occurs to them. They are also easily distracted by irrelevant things. These children find it very hard to carry out tasks which involve waiting, since they have great difficulty stopping themselves from responding straightaway. They will find it hard to do any activity which involves waiting to give an answer, or in which they have to take turns.

Attention problems: - Children with ADHD have a short attention span. They find it hard to concentrate and therefore hard to learn new skills, both academic and practical. Research from the USA suggests that 90% of children with ADHD underachieve at school and 20% have reading difficulties. (Borill, 2000).

Social problems: - though not one of the definitive characteristics of ADHD, children with severe ADHD may be rejected or disliked by other children, because they disrupt their play or damage their possessions. It is easy for a child with ADHD to become labelled as troublesome, or to think parents are at fault for not controlling their child. Part of the difficulty is that children with ADHD may not realise how their behaviour affects other people. They may want to make friends, but have no idea how to go about it, having never picked up the basic rules of social behaviour which most

children learn naturally. Because the children are impulsive, it is also easy for other children to 'set them up' to behave badly.

Because they are overactive and impulsive, children with ADHD often find it difficult to fit in at school. They may also have problems getting on with other children. These difficulties can continue as they grow up, particularly if children and families do not get the help they need. Some children have significant problems in concentration and attention, but are not necessarily overactive or impulsive. These children are sometimes described as having Attention Deficit Disorder (ADD) rather than ADHD. ADD can easily be missed because the child is quiet and dreamy rather than disruptive. ADHD is not related to intelligence. Children with all levels of ability can have ADHD.

Characteristics of ADHD

The characteristic symptoms professionals look for in diagnosing ADHD include:

- Difficulty following instructions or completing tasks
- Difficulty 'sticking to' an activity
- Easily distracted and forgetful
- Often doesn't listen when spoken to
- Fidgets, is restless, can't sit still in class
- Can't stop talking, interrupts others
- Runs about when it is inappropriate
- Blurts out answers without waiting for the question to finish
- Difficulty in waiting or taking turns

In order to be diagnosed with ADHD some of these problems would have been apparent before the age of six or seven years. These behaviours must normally occur in more than one setting (for example at home as well as at school) for ADHD to be diagnosed. They usually exhibit a combination of these symptoms.

Prevalence

As a result, up to 10% of children in the USA were described as having ADHD. Current estimates suggest that ADHD is present throughout the world in about 1-5% of the population. About five times more boys than girls are diagnosed with ADHD. This may be partly because of the particular ways they express their difficulties. Boys and girls both have attention problems, but boys are more likely to be overactive and difficult to manage. Children from all cultures and social groups are diagnosed with ADHD. However, children from certain backgrounds may be particularly likely to

be diagnosed with ADHD, because of different expectations about how they should behave. If you are a parent, it is therefore important to ensure that your child's cultural background is understood and taken into account as part of the

Although the symptoms of ADHD begin in childhood, ADHD can continue through adolescence and adulthood. Even though hyperactivity tends to improve as a child becomes a teen, problems with inattention, disorganization, and poor impulse control often continue through the teen years and into adulthood.

Causes of ADHD

Researchers suggest that ADHD may be caused by interactions between genes and environmental or non-genetic factors. Like many other disabling conditions, a number of factors may contribute to ADHD. Farrell (2011) has suggested the following:

1. **Genetic:** - genetic (inherited) factors are important in ADHD however the specific genes that may be implicated are unknown. No single gene has been identified as causing ADHD, and it is more likely that several genes are involved, each interacting with the environment in extremely complicated ways. ADHD is more common in the biological relatives of children having ADHD than in the biological relatives of children who do not. Twin studies show a greater incidence of ADHD among identical twins than non-identical twins. Studies comparing the incidence of ADHD among children whose parents are biologically related with that of the children of parents where the child was adopted indicate a greater probability of ADHD appearing in parents and children when they are biologically related (Tannock, Attention deficit hyperactivity disorder 1998).
2. **Physiological:** - This relates to the functioning of the brain structures and chemical compositions of the brain. Though most children with ADHD have no history of brain injury or damage to the brain, studies using brain scanning techniques found that children with severe symptoms of ADHD had lower activity than normal in the frontal lobes of the brain. This part of the brain is involved in planning activity and controlling impulses. Another part of the brain which seems to be important in understanding ADHD is the area called the caudate nucleus, which is involved in controlling movements and sustaining attention. These parts of the brain seem to be very slightly smaller in children with severe ADHD. In severe cases of ADHD, such physiological features are caused by brain disease, brain injury, or exposure to toxins such as alcohol or other drugs. Where stimulant drugs such as methylphenidate are effective in reducing hyperactivity, this may indicate that hyperactivity results from an under-arousal of

the mid-brain, leading to inefficient inhibition of movements and sensations. Stimulant drugs may stimulate the mid brain sufficiently to suppress the overactivity.

3. **Psychological:** - psychological view postulates that characteristics of individuals with ADHD lead to difficulties with executive functions involving the mental filtering and checking processes that an individual uses to make decisions about how to behave. E.g. using inner speech (which may evaluate information held in the working memory), taking one's emotional state into account, and recalling knowledge from situations similar to one's current situation.
4. **Environmental:** - Environmental factors, including family influences, may mediate other factors in influencing the probability of ADHD. There is no evidence that the way parents behave can actually cause a child to develop ADHD, however parental behaviours can predispose their children to developing ADHD. For example pregnant women who drink excessively at certain critical points during pregnancy are more at risk of having a child with foetal alcohol syndrome. This is a serious disorder causing mental and physical disabilities, including symptoms of ADHD. Brain damage during birth, caused by a lack of oxygen to the baby's brain, is also a risk factor for ADHD. Exposure to environmental toxins, such as high levels of lead, at a young age, Low birth weight and Brain injuries through accidents can cause ADHD among children. It has been argued that the apparent increase in ADHD may relate to various cultural influences. These include over-stimulation of the mass media, limited opportunities for active play, and higher expectations of children from an earlier age (Armstrong, 2006, p. 41).

Prevention of ADHD

1. **Aging:** - Some children grow out of ADHD although others have problems that continue into adolescence and beyond. Approximately two out of five children with ADHD continue to have difficulties at age 18. The main symptoms of ADHD, such as attention difficulties, may improve as children get older, but behavioural problems such as disobedience or aggression may become worse if children do not receive help. Children with ADHD who become antisocial or aggressive at school, because they do not 'fit in', are at greater risk of getting into trouble as adults.
2. **Medication:** - Stimulant drugs, such as methylphenidate (Ritalin) and dexamphetamine (Dexedrine) may help reduce the symptoms of ADHD and improve attention and concentration. Ritalin work by stimulating those parts of the brain which control behaviour

and regulate activity. The drugs therefore seem to help many children to concentrate and regain control over their actions. Research studies have demonstrated clearly that stimulant medication can produce short-term benefits for many children with ADHD. Many parents have commented on the dramatic improvements which can occur. As children calm down they are able to mix better with others, and they can respond more effectively to teachers and parents. Children may become less aggressive as well as less hyperactive, and their performance at school may improve significantly. Drug treatment may also help young adults.

3. **Diet:** - There is some evidence suggesting that some children with ADHD react badly to certain combinations of foods, including dairy products, chocolate, wheat, fruit, and particularly additives. Research with boys has reported a possible link between attention difficulties and over activity and the use of preservatives and colourings in food. A controlled diet will not help all children with ADHD, but it can be worth trying, provided it is properly designed and monitored by a qualified dietician.

Classroom Strategies

There are many ways in which teachers can organise their classroom, lessons and behaviour in order to help children with ADHD.

1. Arrange the classroom to minimise distractions, for example seating pupils with ADHD away from windows, avoiding the use of tables with groups of pupils.
2. Include a variety of activities during each lesson, alternating physical and sitting-down activities.
3. Set short, achievable targets and give immediate rewards when the child completes the task.
4. Use large type, and provide only one or two activities per page.
5. Avoid illustrations which are not directly relevant to the task.
6. Choose the child with ADHD to write ideas or words on the board etc.
7. Use checklists for each subject, outlining the tasks to be completed, and individual homework assignment charts.
8. Keep classroom rules clear and simple.
9. Encourage the pupil to verbalise what needs to be done - first to the teacher and then silently to themselves.
10. Use teacher attention and praise to reward positive behaviour.
11. Give the pupil special responsibilities, so that other children can see them in a positive light.

Adapted from Hampshire County Council, ADHD: Information & Guidance for Schools (1996)

HEARING IMPAIRMENT

A hearing impairment signifies a flail or partial loss of the ability to detect or discriminate sounds due to an abnormality associated with the physiology, anatomy or function of the ear. Hearing impairment can either be partial (hard of hearing) or deafness. Deafness denotes a sufficient loss of functional hearing so severe as to interfere with ordinary communication. Hard of hearing is defective but functional sense of hearing so that the development of spoken language is not prevented. The hard-of-hearing can benefit from hearing aids, a device that attracts and amplifies sounds in the ear however individuals who are deaf require instruction in sign language.

ANATOMY AND PHYSIOLOGY OF THE EAR

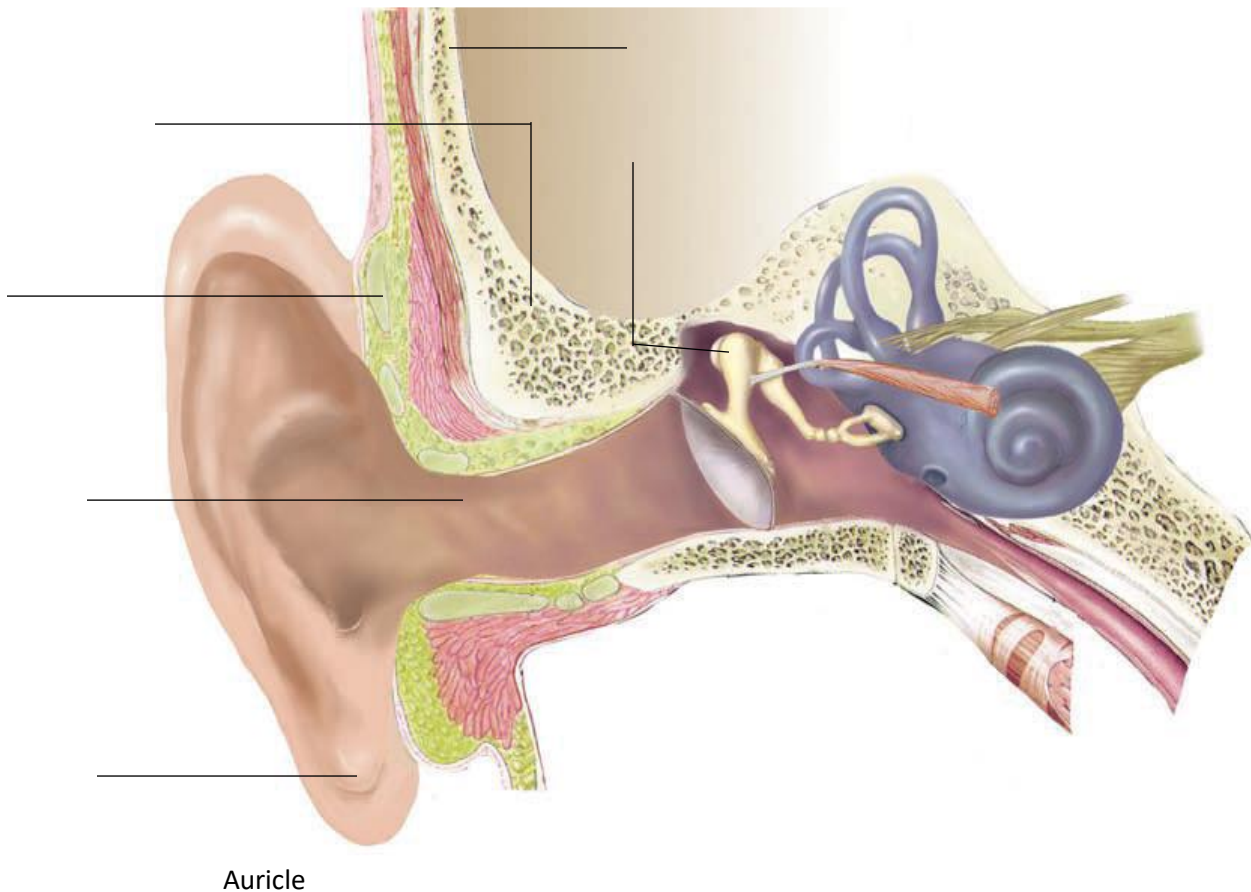
The ear is one of the most complex organs of the body. The many elements that make up the hearing mechanism are divided into three major sections: the outer, middle, and inner ear. The outer ear is the least complex and least important for hearing; the inner ear is the most complex and most important for hearing.

The Outer Ear: - The outer ear consists of the auricle and the external auditory canal. The canal ends with the **tympanic membrane (eardrum)**, which is the boundary between the outer and middle ears. The **auricle** is the part of the ear that protrudes from the side of the head. Sound is collected by the auricle and is funnelled through the external auditory canal to the eardrum, which vibrates, sending the sound waves to the middle ear.

The Middle Ear: - The middle ear comprises the eardrum and three very tiny bones (**ossicles**) called the **malleus** (hammer), **incus** (anvil), and **stapes** (stirrup), which are contained within an air-filled space. The chain of the malleus, incus, and stapes conducts the vibrations of the eardrum along to the **oval window**, which is the link between the middle and inner ears. The ossicles function to create an efficient transfer of energy from the air-filled cavity of the middle ear to the fluid-filled inner ear.

The Inner Ear: - The inner ear is divided into two sections according to function: the vestibular mechanism and the cochlea. These sections, however, do not function totally independently of each other. The **vestibular mechanism**, located in the upper portion of the inner ear, is responsible for the sense of balance. It's extremely sensitive to such things as acceleration, head movement, and head position. Information about movement is fed to the brain through the vestibular nerve. By far the most important organ for hearing is the **cochlea**. Lying below the vestibular mechanism, this snail-shaped organ contains the parts necessary to convert the mechanical action of the middle ear into an electrical signal in the inner ear that is transmitted to the brain. In the normally

functioning ear, sound causes the malleus, incus, and stapes of the middle ear to move. When the stapes moves, it pushes the oval window in and out, causing the fluid in the cochlea of the inner ear to flow. The movement of the fluid in turn causes a complex chain of events in the cochlea, ultimately resulting in excitation of the cochlear nerve. With stimulation of the cochlear nerve, an electrical impulse is sent to the brain, and sound is heard.



Classification of Hearing Impairment

Hearing impairment may be classified based on:

1. Type of loss
2. Age of onset
3. Degree of loss

Types of Hearing Impairment

Three types of hearing impairment have been identified as: Conductive hearing loss, Sensorineural hearing loss and Mixed hearing loss.

Classification of hearing impairment based on types of loss/ function impairment

Professionals classify hearing impairment on the basis of the location of the problem within the hearing mechanism. There are three major classifications: conductive, sensorineural, and mixed hearing impairments.

1. A **conductive hearing impairment** refers to an interference with the transfer of sound along the conductive pathway of the middle or outer ear. **Conductive** Hearing loss which occur as a result of complications in the outer and middle ear e.g. accumulation of wax in the auditory canal, fluid in the middle ear (glue ear), malformation or disconnection of the three bone cells. The ear drum may show defects from small to total resulting in hearing loss of different degree. This occurs mildly or moderately and they are educated in mainstream schools.
2. A **sensorineural hearing impairment** involves problems in the inner ear. **Sensorineural** loss occurs as a result of damage to the cochlea and auditory nerves in the inner ear. It is usually as a result of damage to the hair cell in the cochlea. E.g. noise exposure over long period, disease. It is noted that, most common reason for sensory-neural hearing impairment is damage to the hair cells in the cochlea. Children with sensorineural hearing loss tend to have severe or profound losses and typically attend special schools for deaf children (Andrews et al. 2011; Marschark, 2007; Marschark & Hauser, 2011).
3. A **mixed hearing impairment** is a combination of the two. **Mixed** Hearing Loss occurs when both sensorineural and conductive losses are present. Chronic ear infection that is a fairly common diagnosis could result in a defect ear drum and/or middle ear ossicle damages.

Audiologists attempt to determine the location of the dysfunction. The first clue may be the severity of the loss. A general rule is that hearing impairments greater than 60 or 70 dB usually involve some inner-ear problem. Audiologists use the results of pure-tone testing to help determine the location of a hearing impairment. They then convert the results to an audiogram—a graphic representation of the weakest (lowest-decibel) sound the individual can hear at each of several frequency levels. The profile of the audiogram helps to determine whether the loss is conductive, sensorineural, or mixed.

Complications in the Outer Ear: - Although problems of the outer ear are not as serious as those of the middle or inner ear, several conditions of the outer ear can cause a person to be hard of hearing. In some children, for example, the external auditory canal does not form, resulting in a condition known as *atresia*. Children may also develop **external otitis**, or “swimmer’s ear,” an

infection of the skin of the external auditory canal. Tumors of the external auditory canal are another source of hearing impairment.

Complications in the Middle Ear: - Although abnormalities of the middle ear are generally more serious than problems of the outer ear, they, too, usually result in a classification as hard of hearing rather than deaf. Most middle-ear hearing impairments occur because the mechanical action of the ossicles is interfered with in some way. Unlike inner-ear problems, most middle-ear hearing impairments are correctable with medical or surgical treatment. The most common problem of the middle ear is **otitis media**—an infection of the middle-ear space caused by viral or bacterial factors, among others. Otitis media is common in young children. Otitis media can result in temporary conductive hearing impairment, and even these temporary losses can make the child vulnerable for having language delays (Feldman et al., 2003). If untreated, otitis media can lead to rupture of the tympanic membrane.

Complications in the Inner Ear: - The most severe hearing impairments are associated with the inner ear. In addition to problems with hearing sensitivity, a person with inner-ear hearing impairment can have additional problems, such as sound distortion, balance problems, and roaring or ringing in the ears. Causes of inner-ear disorders can be hereditary or acquired. Genetic or hereditary factors are a leading cause of deafness in children. In fact, over 400 different varieties of hereditary deafness have been identified (Andrews et al., 2011). Scientists have identified mutation in the **connexin-26 gene** as the most common cause of congenital deafness. Acquired hearing impairments of the inner ear include those due to bacterial infections (e.g., meningitis, the second most frequent cause of childhood deafness), prematurity, viral infections (e.g., mumps and measles), anoxia (deprivation of oxygen) at birth, prenatal infections of the mother (e.g., maternal rubella, congenital syphilis, and cytomegalovirus), Rh incompatibility (which can now usually be prevented with proper prenatal care of the mother), blows to the head, side effects of some antibiotics, and excessive noise levels.

Classification of hearing impairment based on the age of onset

Educators are extremely concerned about the age of onset of hearing impairment. Again, the close relationship between hearing impairment and language delay is the key. The earlier the hearing impairment occurs in life, the more difficulty the child will have developing the language of the hearing society. Based on the age of onset, professionals classify hearing impairment as:

1. **Congenital hearing loss** (those who are born deaf) and

2. Adventitious (those who acquire deafness at some time after birth). Adventitious hearing loss is also classified into two:

- **Prelingual deafness** refers to deafness that occurs at birth or early in life before speech and language develop.
- **Postlingual deafness** is deafness that occurs after the development of speech and language.

Classification of hearing impairment based on degree of loss

Hearing level is measured in decibels (dB) with audiometer which is plotted on an audiogram.

The quantification of hearing loss is as follow:

- **Mild:** between 20 and 40 dB HE for children and between 26 and 40 dB HL for adults.
- **Moderate:** between 41 and 55 dB HE for children and between 56 and 70 dB HE for adults
- **Severe:** between 71 and 90 dB HE
- **Profound:** 91 dB HE or greater

Identification/Characteristics

1. Find listening difficult, have trouble following directions and paying attention in class
2. Tendency to ask for words to be repeated
3. Tendency to rub ear(s) repeatedly
4. May complain of earaches or headaches
5. Frowning face and cupping the ear to hear
6. Are slow in learning to talk, have unclear speech, limited vocabulary
7. May respond inappropriately to verbal statements or instructions
8. Do not hear clearly in a noisy classroom, may turn head to one side when listening
9. May talk in very loud voice

Challenges of Students with Hearing Impairment in Inclusive Classrooms

1. Hearing impairment may affect language development and learning.
2. Missing verbal instructions can affect students' responses to questions and academic performance.
3. They may also engage in wrong verbal responses to questions.
4. It may lead to poor self-concept and feeling of worthlessness.
5. It may affect their social interaction and group work participation.

6. Derogatory names by teachers and other students may cause students with hearing impairment to drop out of school.

Causes of Hearing Impairment

Generally, the causes of hearing impairment have been estimated as 1/3 genetic, 1/3 environmental, and 1/3 unknown. Yekple and Deku (2014) espouse that in understanding the causes of hearing loss, it is important to consider the age of onset. This is generally classified as prenatal, perinatal, and postnatal.

1. **Genetic causes:** - genetic factors have been implicated in hearing impairment. This means that hearing impairment can be inherited from the parents. It has been estimated that about half of congenital deafness is caused by genetic abnormalities (Tran and Grunfast, 1999 cited in Yekple and Deku, 2014). Similar to genetic factors is rhesus incompatibility of the mother's and the child's blood.
2. **Maternal diseases:** - Another prenatal cause of hearing impairment is maternal disease (rubella) which is also called German measles. This can cause deafness in the developing child if it affects a pregnant woman particularly during the first trimester (Heward and Olansky, 1996).
3. **Anatomical malformation:** - Some children are born with malformation of the external auditory canal or the internal organs in the middle ear. These affect effective transmission of sounds and the processing of information by the brain.
4. **Prematurity:** - Infants born 37 weeks of gestation are considered premature and may be at risk for complications. Early delivery and low birth weight are common among children who are deaf than the general population (Heward, 2003).
5. **Asphyxia:** - Severe asphyxia at birth causes hearing impairment. Asphyxia or loss of oxygen during delivery or perinatal period can cause hearing impairment. The destruction of the neurons by lack of oxygen can affect speech and language production and acquisition structures in the brain causing hearing problems.
6. **Meningitis:** - One of the postnatal causes of hearing impairment is meningitis. According to Heward and Olansky (1996), the leading cause of adventitious hearing impairment is meningitis. Meningitis is an inflammation of the coverings of the brain and the spinal cord caused by an infection which often leave the victim with a hearing loss. This is a bacterial infection that can destroy the sensitive acoustic apparatus of the inner ear. Children whose

deafness is caused by meningitis generally have profound hearing losses but are not likely to have additional disabilities. They indicate that the infection occurs most often in children, teens, and young adults.

7. **Noise:** - Another postnatal cause of hearing impairment is exposure to noise. Noise pollution or repeated exposure to loud sounds, such as industrial noise, jet aircrafts, guns, and amplified music, is increasingly recognized as a cause of hearing loss in many people (Yekple & Deku, 2014 p. 96). Okyere and Adams (2003) mentioned that environmental noise pollution can injure the hearing mechanism. Sound has force and energy and when loud enough, the pressure it exerts can cause a perforation in the ear drum.
8. **Wax impaction** is one of the postnatal causes of hearing impairment. This can occur in either canals or only one of the canals. In some cases the canal is fully blocked and the wax looks brownish-black and hard. When the ear canal loses its original size or volume due to the presence of wax, sound perception also changes.
9. **Other Disease or illness:** - There are several other postnatal causes of hearing impairment which include Measles (may result in auditory nerve damage); Autoimmune disease (recognized as a potential cause for cochlear damage).
10. **Age**
Presbycusis, the progressive loss of ability to hear high frequencies with increasing age, begins in early adulthood, but does not usually interfere with ability to understand conversation until much later, (Robinson & Sutton, 1979)
11. **Neurological disorders:** - Neurological disorders such as multiple sclerosis and strokes can have an effect on hearing as well.
12. **Medications:** - Some medications cause irreversible damage to the ear, and are limited in their use for this reason.
13. **Exposure to ototoxic chemicals:** - In addition to medications, hearing loss can also result from specific drugs; metals, such as lead; solvents, Drugs
14. **Physical trauma:** - There can be damage either to the ear itself or to the brain centers that process the aural information conveyed by the ears. People who sustain head injury are especially vulnerable to hearing loss or tinnitus, either temporary or permanent

Prevention of Hearing Impairment

Instructional Support/Teaching Guidelines for the Hearing Impaired

1. Use visual clues to reinforce what is being said.
2. Write important instructions or key words on the board.
3. Give homework instructions when the class is quiet.
4. Allow a friend to check that the instructions and information are understood.
5. Rephrase as well as repeat phrases and words not understood.
6. When other children answer questions, repeat their answers.
7. Make sure children can see the teacher's face when they need to listen.
8. Don't walk about the room when giving instructions.
9. Keep classroom noise as low as possible.
10. Avoid giving notes to the class orally.
11. Ensure children use hearing devices properly and that these are well maintained.

VISUAL IMPAIRMENT

Visual impairment refers to vision loss. It is the reduced ability or inability to see. According to the Individuals with Disabilities Education Act (IDEA) of 1997, a visual impairment refers to impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes both partial sight and blindness." The two major classifications are low vision (or partially sighted) and blindness. Those with low vision are able to use their residual visions e.g. with some modifications they are able to read printed materials. For example, special spectacles may be prescribed for them or large prints may be readable by persons with low vision. The blind are not able to read print and therefore require instruction in braille. The vast majority of children with visual impairment have low vision and most are educated in mainstream classes/schools.

Educational and Legal Definition of Visual Impairment

The two most common ways of describing someone with visual impairment are the legal and educational definitions. Laypeople and medical professionals use the legal definition and; the latter is the one educators favour. The two major classifications are blindness and low vision.

Legal Definition: - The legal definition involves assessment of visual acuity and field of vision. **Visual acuity** is the distance the eye can perceive objects whereas the **field of vision** is the degree the eye can see. A person who is **legally blind** has visual acuity of 20/200 or less in the better eye even with correction (e.g., eyeglasses) or has a field of vision so narrow that its widest diameter subtends an angular distance no greater than 20 degrees. The fraction 20/200 means that the person sees at 20 feet what a person with normal vision sees at 200 feet. (Normal visual acuity is thus 20/20.) The inclusion of a narrowed field of vision in the legal definition means that a person may have 20/20 vision in the central field but severely restricted peripheral vision. Legal blindness qualifies a person for certain legal benefits, such as tax advantages and money for special materials. In addition to this classification of blindness, is a category referred to as **low vision** (sometimes referred to as *partially sighted*). According to the legal classification system, persons who have low vision have visual acuity falling between 20/70 and 20/200 in the better eye with correction. Legally, a child is considered to have low vision if acuity in the best eye after correction is 20/70 or less and child is considered blind if visual acuity in the best eye after correction is 20/200 or less and the field of vision is restricted to an area of less than 20 degree (tunnel vision).

Educational Definition

Many professionals, particularly educators, find the legal classification scheme inadequate. They have observed that visual acuity is not a very accurate predictor of how people will function or use whatever remaining sight they have (residual vision). Although a small percentage of individuals who are legally blind have absolutely no vision, the majority can see to some degree. The educational definition makes up for this limitation. Educational definition stresses the method of reading instruction. For educational purposes, individuals who are blind are so severely impaired they must learn to read **braille**, a system of raised dots by which people who are blind read with their fingertips. Alternatively, they use aural methods (audiotapes and records). Those who have low vision can read print, even if they need adaptations such as magnifying devices or large-print books. It's important to note that even though people with low vision can read print, many authorities believe that some of them can benefit from using braille.

Visual impairment can occur within the following degree:

- Totally blind. This term usually implies little or no visual sensitivity to light at any level. This condition is rare, and people who are totally blind typically have severe physical damage to the eyes themselves or to the visual nerves.
- Legally blind. A legally blind person has a visual acuity of 20/200 or less in the better eye, after correction. This means that what an individual with normal (20/20) vision sees at two hundred feet, the legally blind person cannot see until he or she is within twenty feet. In addition, a person can be classified as legally blind if she has a field of vision no greater than twenty degrees at the widest diameter. (A normal field of vision is close to 180 degrees.) Only about 20 percent of legally blind people are totally blind. Legally blind individuals typically use Braille and visual aids.
- Low vision. People with low vision can read with the help of large-print reading materials and magnifying objects. They may also use Braille.
- Partially sighted. Partially sighted individuals have less severe loss of vision than people in the other three categories. A person with partial sight may be able to see objects up close or far away and with corrective lenses may be able to function at normal levels.

Types of visual problems

Visual problems are categorized into the following:

- 1. Refractive Errors:** - The most common type of vision problem found in students involves problem in refraction. These errors include; Myopia (short sightedness), Hyperopia (long sightedness); Astigmatism

Other Common Eye Conditions

Amblyopia: - Amblyopia is also known as lazy eye. Children with a lazy eye may or may not be perceptible. Sometimes a lazy eye visibly turns in or out, but sometimes there is no outward sign. Amblyopia causes the eye to have reduced acuity due to the poor positioning of the eye and weak muscles. The treatment is commonly a patch over the normal eye that makes the lazy eye work harder. Surgical corrections are also common.

Retinitis Pigmentosa: - This is a degenerative condition that is inherited. Retinitis pigmentosa results in a loss of peripheral vision, and eventually the student is left with a severe visual impairment.

Retinopathy of Prematurity: - This condition is common in children who were premature babies

that required high concentrations of oxygen at birth. Scarring and detachment of the retina can result from this condition.

Strabismus: - In this condition, both eyes are unable to gaze at an object at the same time. Strabismus is caused a muscle imbalance.

Cortical Visual Impairment: - Cortical visual impairment is not a problem with the eye itself but with the visual cortex area of the brain. These children may also have other developmental delays or cerebral palsy. Vision may change throughout the day, depending on the health, mood of the child, or his environment.

Characteristics

Behavior

- Rubs eyes excessively
- Hold reading material too far or close from the eyes
- Shuts or covers one eye, tilts head forward
- Squints eyelids together or frown
- Have difficulty in reading or in other work requiring close look

Appearance

- Watery eyes
- Swollen eyelids
- Crossed eyes

Complaints

- Eye itch, burn, feel scratchy
- Cannot see well
- Blurred or double vision

Identification of Visual Impairment

Children with visual impairment:

- Can be clumsy, trip or bump into objects, have difficulty with steps
- Have poor hand-eye coordination, poorly formed handwriting
- May hold head in unusual ways or hold books very close to eyes
- May frown, make faces, close one eye or squint, or have unusual eye movements

- Often complain of headaches or dizziness
- May rub eyes and have red eyelids or watery eyes
- May have difficulty in seeing the blackboard
- May become tired more quickly than other children

Common challenges of students with Visual Impairment in Inclusive Classrooms

- They may find it difficult reading from the board or printed materials.
- They are likely to copy wrongly from the board.
- They may bump into objects in the classroom and hurt themselves.
- Inaccuracies in calculation or arithmetic for poor perception of mathematical operations (e.g. X for + or ÷ for -) and vice versa.
- Difficulty reading materials closer to or far from them.
- They may have mobility problems and have difficulty navigating their way around the classroom and in the school.
- They may be ostracised by their peers leading to low self-esteem and potential drop out of school.

Cause of visual impairment

1. Pre-natal causes
 - Heredity
 - Disease
 - Toxicants infection
2. Peri-natal causes
 - Prolonged labour
 - Accident during birth
 - Prematurity
3. Post-natal
 - Poor nutrition
 - Diseases
 - Introduction of dangerous objects into the eye

Managing Students with Visual Impairment in Inclusive Classrooms

1. Encourage the child to use visual aids prescribed, e.g., glasses and magnifiers.
2. Sit the child appropriately in classroom, e.g., in the middle or toward the front.
3. Make sure classroom lighting is suitable.
4. Eliminate glare from the child's desk and the blackboard.
5. Ensure classroom environment is well organized and consistent.
6. Use worksheets with correct print size, enlarged if necessary.
7. Ensure good contrast on any visual materials used: black and white is best.
8. Supplement visual information with verbal explanation.
9. Use concrete materials and hands-on experiences wherever possible.
10. Allow more time to complete tasks and breaks in order to combat fatigue.

Westwood (2008) has also proposed similar strategies for helping students with disability in inclusive classrooms

1. Encourage partially sighted students to use their residual vision effectively. Using the remaining vision is helpful, not harmful to these students.
2. Use a word processor or photocopier to greatly enlarge all text and notes.
3. Allow students when writing to use a fibre-tip black pen that will produce clear, bold writing.
4. Allow much more time for students with impaired vision to complete their work.
5. Read written instructions to students to reduce the amount of time required to begin a task and to ensure that the work is understood.
6. Use very clear descriptions and explanations; verbal explanation has to compensate for what the student cannot easily see.
7. Train other students, and any classroom aide or assistant you may have, to support the student with impaired vision (e.g., for note-taking, repeating explanations).
8. Speak to blind students frequently by name during lessons to engage them fully in the group learning processes. Make sure they contribute. Value their contributions in the same way that you value those of other students.
9. Make sure that any assistive equipment is always at hand and in good order.
10. Ensure that your material on the board or screen is neat and clear, using larger script than usual. Keep the board surfaces clean.

11. Avoid overloading worksheets with too much information and heavy density of print.

PHYSICAL AND HEALTH IMPAIRMENTS

Garugiulo (2012) indicated that students who have physical or health disabilities are one of the most diverse categories of learners because of the wide range of diseases and disorders included in this category. Physical and movement problems refer to the difficulty or inability for an individual to gain control over their own bodies. They are “Acquired or congenital impairments that involve the body’s neurological or muscular systems that affect movement” (Okyere & Adams, 2003 p. 320). Physical disabilities refer to impairment in any of the body part or organ that makes it difficult for a person to have full control over their movement and which interferes with their daily activities. Children with these conditions may require the use of wheelchairs, braces, crutches, or other artificial supports (Yekple & Deku, 2014).

According to Hallahan and Kauffman (2006) children with physical disabilities are those whose physical limitations interfere with school attendance or learning to such an extent that special services, training, equipment, materials, or facilities are required. Physical disabilities occur with tremendous variety such as congenital anomalies (defects from birth) or they may acquire disabilities through accident or disease after birth. The condition may be mild and transitory or profound and progressive ending in total incapacitation and early death. Physical disabilities manifest in difficulty in using fine and gross motor abilities. The gross motor abilities include activities that require the use of large muscles such as walking, running, jumping, throwing, and catching. The fine motor abilities involve finer/small muscles required in the performance of activities such as drawing, writing, threading, buttoning, and lacing. Fine motor abilities are usually smaller movements that occur in the wrists, hands, fingers, feet and toes. They involve smaller actions such as picking up objects between the thumb and finger, writing carefully, and blinking. These motor skills work together to provide coordination. It is important to note that both gross and fine motor abilities are required for effective participation in the school and class activities and to improve learning outcomes for the student.

Types of Physical Disabilities

Generally, there are two broad classifications of physical problems.

- **Neurological disorders:** - occur when there is damage to the Central Nervous System (CNS). These problems that occur in relation to problems with the brain, spinal cord, or the nerves. Examples of these conditions include: cerebral palsy, epilepsy, spinal cord injury, and spina bifida.
- **Musculoskeletal/Orthopaedic disorders:** - these conditions mostly affect muscles, bones, and joints of the individual. Examples include muscular dystrophy, arthritis, cleft lip, cleft palate, club foot and poliomyelitis.

Identification of Physical Impairment

- An unusual gait or difficulty with hopping, skipping, running, or jumping
- A poor sitting or standing posture/poor eye-hand, or foot, coordination
- Clumsiness/jerky movements/tremors/seizures/black-outs
- Bone or joint deformities; painful, stiff, or swollen joints
- Difficulty breathing or can easily become tired.
- Paralysis
- Altered muscle tone
- Loss of, or inability to use, one or more limbs
- Difficulty with gross-motor skills such as walking or running
- Difficulty with fine-motor skills such as buttoning clothing or printing/writing

Health Impairment

Health impairments are conditions related to medication. Individuals with health impairments may range from those with severe health problems forcing them to stay home to those with a hidden disability, such as a tumour (Gargiulo, 2012). Health impairments may originate from a wide variety of conditions including HIV/AIDS.

Types of Health Impairment

Health impairments found in schools may be several including arthritis, epilepsy, heart defects, asthma, allergies, diabetes, cancer, cystic fibrosis, and muscular dystrophy (Hornby, 2014). Some of these conditions are stable, others are progressive or terminal, but all are likely to adversely affect children's educational functioning (Salend 2011). They are generally classified as:

- **Metabolic Disorders:** - these are problems encountered in metabolism. Metabolism is the breaking down of food substances in the body. Example of metabolic disorders include; diabetes characterised by weight loss, headaches and thirst. This results from the body's inability to produce sufficient insulin - hormone produced by the pancreas for breaking down food substances.
- **Cardiopulmonary Conditions:** - these are conditions related to the heart, lungs and blood. Examples include; Asthma characterised by difficulty in breathing and frequent bowel movement.

Identification Health Impairment

- Be frequently absent from school due to illness or medical appointments
- Have medicines that they must take during the school day
- Have equipment they must have with them at school, such as inhalers for asthma
- or adrenaline pens for nut allergies
- Get tired quickly

Causes of Physical and Health Impairments

- **Chromosomal and Genetic Causes:** - hereditary conditions resulting from defects in one or both parents' chromosomes or genes (Gargiulo, 2012). Several genetic defects are believed to contribute to a range of physical and health disabilities, such as muscular dystrophy, sickle cell anaemia, hemophilia, and cystic fibrosis

- **Teratogenic Causes:** - Teratogens are outside causes, such as infections, drugs/alcohol, chemicals, or environmental agents that can produce foetal abnormalities.
- **Prematurity and Complications of Pregnancy:** - babies born prematurely (before 37 weeks) are at risk of having disabilities. These infants can develop neurological problems resulting in cerebral palsy, epilepsy, vision loss, hearing loss, deaf-blindness, and/or psychosis. The most common cause of brain injury during the perinatal period is asphyxia—a decrease of oxygen in the blood leading to cerebral palsy, epilepsy, and cognitive deficits.
- **Acquired Causes:** - These acquired causes include accidents, trauma, child abuse, infections, environmental toxins, and disease.

Common challenges of students with physical and health impairment in inclusive classrooms

- Though physical and health impairment may not necessarily affect a child's learning, they may undoubtedly affect learning in several ways:
- Physical and health impairment may limit their punctuality and regularity to school and therefore affect their academic performance.
- Difficulty with fine motor skills may make it difficult for the students to write.
- Their movement in the classroom may be hindered especially those using wheelchairs and crutches and hence limit their effective participation in the instructional activities.
- Children with amputated hands may have difficulty writing.
- Conditions such as cleft lip and cleft palate may affect their speech and hence their responses in the classroom.

- They may be stigmatised and ridiculed by other children and may potentially drop out of school.
- Until teachers become conscious of them, they may be physically present but academically excluded.
- Lack of alternative forms of assessment may affect their participation in class exercise especially those who cannot write because of amputation or fine motor deficits.

Instructional Support and Teaching Guidelines for Physical and Health Impairment

- Have contingency plans in place for emergencies.
- Ensure the child has all the physical aids he/she needs.
- Ensure physical access, e.g., ramps into buildings/handles in toilets.
- Make sure the child is able to sit comfortably, in a good position to see.
- Provide opportunities for changes of position when necessary.
- Adapt activities so the child can participate in physical education.
- Modify assignments or tests to accommodate student's disability (e.g., reduce paper tasks, break up assignments into shorter segments, alternate test or assignment format).
- Allow more time to complete tasks and rest periods to prevent fatigue.
- Be sensitive and understand the time needed for therapy or hospitalization.
- Send home class work when children are absent from school.
- Provide opportunities for children to socialize with classmates.
- Assist students with physical disabilities to participate as much as possible in classroom activities requiring a motor response.

- Collaborate closely with parents/family in order to ensure that child's medical and educational needs are met.

COMMUNICATION DISORDERS

Communication is the exchange of ideas and information between and among people. Language and speech are usually the mediums of communication among humans. Any difficulty in the use of speech and language therefore makes it difficult for the individual to express themselves comprehensibly. Thus, it makes it difficult for others to understand them when they express themselves in language or speech. A **communication disorder** impairs the ability to transmit or receive ideas, facts, feelings, and desires and may involve language or speech or both, including hearing, listening, reading, or writing.

Language is the communication of ideas—sending and receiving them—through an arbitrary system of symbols used according to certain rules that determine meaning. Encoding or sending messages is referred to as **expressive language**. Decoding or understanding messages is referred to as **receptive language**. Oral language or **Speech**—is the most common symbol system used in communication between humans.

The American Speech–Language–Hearing Association (ASHA) provides definitions of disorders of communication, including speech disorders, language disorders, and variations in communication (differences or dialects and augmentative systems) that are not disorders (see the accompanying Focus on Concepts).

Speech disorders are impairments in the production and use of oral language. They include disabilities in making speech sounds, producing speech with a normal flow, and producing voice. Thus, Speech Disorders are expressed in:

- Phonological/Articulation problems (e.g., substituting r for w in speech), saying wabbit instead of rabbit.
- Fluency problems (e.g., stammer or stutter)
- Voice disorders (e.g., hoarseness or high-pitched voice)

Language disorders include problems in comprehension and expression. Remember that language is governed by rules. Language disorders may involve the form (phonology, morphology, syntax), content (semantics), or use of language (pragmatics).

- **Phonology** refers to the rules governing speech sounds—the particular sounds and how they are sequenced.
- **Morphology** refers to the rules that govern alterations of the internal organization of words, such as adding suffixes and other grammatical inflections to make proper plurals, verb tenses, and so on.
- **Syntax** refers to the rules of organizing sentences that are meaningful, including, for example, subject and predicate and placing modifiers correctly.
- **Semantics** refers to the rules about attaching meanings and concepts to words.
- **Pragmatics** refers to the rules about using language for social purposes.

Language disorders may involve any one or a combination of these five subsystems of language. Differences in speech or language that are shared by people in a given region, social group, or cultural/ethnic group should not be considered disorders. For example, Gas in Ghana are likely to say eat for heat likewise the Ashantis may say ‘brack’ for ‘black’ but such instances do not constitute disorders of speech or language. As long as speech and language are guided by consistent rules of a language community, they are not disorders, although they may differ from what we are accustomed to hearing and saying. Communication difficulties may coexist with other disabilities such as hearing impairment, cerebral palsy, intellectual disability, and moderate to profound levels of learning difficulties (Kuder, 2012; Loncke, 2011). Thus, the majority of children with more severe degrees of speech and language difficulties are taught in special schools or special classes in mainstream schools. However, mild to moderate levels of such difficulties are common in mainstream classes (Hornby, 2014).

Causes of communication disorders

a. Organic causes

This is also known as biological causes (from nervous system or structural problems).

They may be:

- Nerve immaturities e.g. Down syndrome, children slow in development.
- Sensory defects-hearing impairment, visual impairment, listening skill development, inadequate feedback.

- Loss of sense of smell (anosmia), taste and touch affecting quality of perception of information of object, event expressed in words/sign Language.
- Damage to speech and languages centres in the brain. These can be as a result of accidents, illness, Cerebral-vascular accidents (stroke), Violence (slaps, knocks) etc.
- Abnormal growth on vocal folds-vocal polyps
- Lack of muscle/nerve coordination and other structural problems relating to the face
- Diseases-laryngitis (voice-hoarseness causes)
- Macroglossia-large tongue
- Macroglossia-small tongue
- Tongue tie (ankyloglossia)
- Enlarged tonsils (covers breath flow)
- Dental jaw irregularities:
- Missing teeth (Incisors)-/s, z, ʃ, f, v/ speech sounds production problematic
- Congenital abnormalities-clefts (lip, palate)

b. *Non-organic causes*

- Inadequate exposure and interest in language usage
- Chronic childhood diseases preventing good mother-child bonding
- Malnutrition
- Poverty
- Divorce, separation of parents
- Drug effects e.g. cannabis
- Multilingualism-child becomes frustrated and confused with many languages
- Social (lifestyle-model choice)
- Poor speech and language model-mother, care giver (Gadagbui, 1998)

Some common challenges of Communication disorders in inclusive classrooms

1. Students with unaddressed speech difficulties often struggle to communicate in classroom settings.

2. Some may have trouble comprehending lessons and organizing their thoughts, and others might rely on hand gestures rather than words.
3. Such students often shut down, isolating themselves out of fear or embarrassment.
4. This communication barrier can often be overcome by developing individual education plans for struggling students and consulting with special education teachers, parents and counsellors. Other challenges identified by Wellington and Wellington (2002) include the following:
5. Problems with speech production: - A pupil with poor speech production will be unable to show her or his understanding in a classroom situation, whether it be in a whole-class question-and-answer session or in small-group situations. An apparent learning difficulty may therefore be caused by this communication difficulty, not a cognitive difficulty.
6. Word-finding difficulty, connected with problems in learning, storing, and retrieving words.
7. Pupils with communication difficulties may not be capable of putting a sentence together in an appropriate sequence, or a series of sentences together to explain an event or a process.
8. Social communication and interaction, e.g. responding to the verbal or non-verbal cues of others, can be a particular problem in group work, especially when pupils are carrying out collaborative tasks which require teamwork and cooperation.
9. It shows itself in problems with social interactions such as 'turn taking' and the use of social language. General lack of progress in literacy; Lack of progress in literacy will result in problems with independent research, note taking, and reading problems.

Teaching Guidelines/Instructional support for Students with Communication Difficulties in Inclusive Classrooms

1. Listen to children carefully to determine speech/language difficulties.
2. Be a good model of appropriate speech and language.
3. Sit child with others who are good speech models.
4. Use rhymes and exercises to encourage clear articulation.
5. Use role-playing, debates, puppets, etc., to develop oral language skills.
6. Use audio-visual aids such as video/audio recorder or language master.
7. Use language children can understand; simplify complex statements.

8. Use nonverbal clues, e.g., gestures, body language, and visual aids.
9. Define, highlight, and reinforce new vocabulary used.
10. Be patient with stutterers, give them time to express themselves.
11. Accept the verbal contributions of all students.
12. Refer on those with complex problems to speech-language therapist.

Classroom management of children with communication disorders

Speech, language and social acceptance issues mostly govern the management of children with communication disorders. The following strategies can best offset the problem:

- Good speech model: constant exposure of children to good speech language models from parents, teachers, caregivers etc.
- Modify classroom activities and assignments that require language skills e.g. change communication situation to singing, reading aloud in unison, groups etc.
- Avoid finishing sentences for children with dysfluency and sensitize students to wait quietly and listen attentively while others speak.
- Provide an accepting and non-threatening classroom environment and allow opportunity for practice.
- Supply and ensure the appropriate usage of language and speech inducing items (jigsaw puzzle, electronic talking toys etc.).
- Involve children in dramatization, role play and poetry recitals (rhymes)
- Provide multiple examples of word meanings by using practical approaches.
- Utilize breathing and relaxation exercises.
- Individualized speech and language therapy are essential for those children desiring clinical sessions.
- Continuous and judicious practice of clinical therapy at home and school (e.g. blowing, sucking, breathing exercises).
- Resources service provision to off-set additional learning difficulty on part-time bases.
- Teacher tolerance and support of climates needed.
- Avoid ridicule and labelling especially from peers.

UNIT 3

ASSESSMENT IN SPECIAL NEEDS EDUCATION

Definition of Assessment: McLaughlin and Lewis (1994) view Assessment is the systematic process of gathering educationally relevant information to make legal and instructional decision about the provision of special services.

Key Features of the Definition

Assessment as a process: assessment is not an activity that takes place once. It is continuous and on-going. It has a beginning (identification of needs) and an end (where the need no longer exists).

Assessment is systematic: it is done sequentially and step by step manner.

Educationally relevant information: the information gathered should be useful for planning educational programmes for the child. It should be tailored to teaching and learning.

Legal and Instructional decisions: - legal decisions include parents rights and responsibilities, child's rights and responsibilities, government's rights and responsibilities. Instructional decisions involve placement (where to teach), curriculum (what to teach), and methodology (how to teach).

- a. Assessment is an active exercise (process).
- b. Assessment has an aim- It gathers information that is educationally relevant
- c. Assessment may lead to other actions- Information is used in making vital decisions
- d. Assessment has an objective- to monitor progress.

Assessment as a process

It has a beginning and an end. The end marks the achievement of set goals. Assessment ends only when information gained reveals that child's problem no longer exists.

Purpose of Assessment

1. **Screening** is a process of assessing a large number of children for the purpose of identifying those who need more thorough evaluation to determine whether or not they actually have problems. Tools for Screening *includes*; Observation, interview or use of test. This can be done by either of the following; Teachers, nurses *or* Parents.
2. **Pre-referral:** - before referral is made it is important for teachers to put in interventions to see whether the identified condition will continue to exist or not. If the problem no longer exists no referral is made. However, if the problem persists after the intervention, then there is a need to seek expert assistance.
3. **Referral** – It is a process of asking more qualified professionals to help know more about the nature of a problem. Parents and teachers make referral to medical professionals and psychologists. Parental consent must however be sought before teachers can make referrals.
4. **Evaluation:** - It is a process whereby professionals in the field of medicine, education, psychology and social services use various tests and procedures to comprehensively diagnose a child's special educational needs. Both formal and informal assessment procedures may be used to determine the special needs of the child.
5. **Team conferencing:** - This is where professionals who evaluated the child meet to collect and collate the results of their evaluations. This enables the determination of the nature of

the disability, the degree of the disability, educational placement options, need for special education and related services and design of individualized education programme.

6. **Monitoring of Progress:** - It is the process of collecting information on daily basis with the aim of knowing the progress a child is making on a programme. Monitoring is the process of whereby data is gathered to identify the extent to which a child responds to an educational plan and intervention designed to help the child overcome his/her difficulties. This is done on a frequent basis. This helps to identify the strengths and weaknesses of the child, or those providing services are doing their work well. It also helps to identify needed supplementary services, and to determine whether set goals are achieved.
7. **Programme Evaluation:** - This involves judging the quality of a plan put in place for an individual to determine its efficacy. Thus, evaluation involves assessing the programme in order to determine whether the programme should continue, be modified or get rid of the programme.

Principles of Assessment

1. *Educational Needs* – An assessment should meet a needs, these needs includes:
 - a. Academic problems for example inability to read etc
 - b. Social problems for examples to read
 - c. Emotional needs for example, inattentiveness, restlessness
 - d. Physical needs for example fine and gross motor problems
 - e. Communication needs for example speech and language problems
2. *Non-discriminatory*
This means that in the assessment process, we should not be bias against individuals who are different from us
3. *Comprehensiveness and multidisciplinary*
All the needs of the child should be covered for example academic, social, physical emotional etc.
4. *Technical adequacy*
It deals with the trustworthiness of the tools/techniques used for collecting information. There should be validity and reliability of the assessment tools. Information should be dependable
5. *Beyond the child* - Assessment should include conditions in the home and school
6. *Continuous* - Once assessment starts, it should go, on and on until the problem identified no longer exists.
7. *Recording and Reporting* - It is important to record for the purpose of not losing any information. Recoding is done on paper or tape. Information must be kept in its original state so that correct interpretation can be made.

Formal Assessment

Formal assessment in Special Needs Education involves standardized procedures. For instance, the use of *norm reference test* for all testees under uniform or similar condition to investigate the extent to which children differ physically, socially, emotionally and intellectually. Under this

circumstance, children of similar socio-economic background, age or class are made to perform certain activities under the same condition.

Purpose of Formal Assessment

The main purpose is to find out if difference exists, to see if some children have certain characteristics that are different from the peers. This can be done when we arrange for all children to perform certain activities under the same conditions. The children should possess similar characteristics such as age, class and socio-economic background.

Characteristics / Features of Formal Assessment

1. It has standard/uniform procedure for test administration
2. It often deals with paper and pencil test
3. It has the same procedure for scoring test
4. It has the same procedures for interpreting test scores
5. It provides information that is reliable, dependable and trust worthy
6. It has items that can appropriately produce required information that is valid
7. It reports scores in standard ways example percentile and grade equivalents

The school psychologist, special education teachers and psychometricians (measurement of mental data) administer the test.

Merits/Benefits of Formal Assessment

1. It gives information about how a child fares in relation to the peers
2. It gives information that is trustworthy and hence dependable
3. It eases decision on placement
4. It facilitates the process of selection that is to know the strengths and weakness of the child
5. It does not give room for subjectivity and biases that is the one scoring the test is unable to manipulate the scores to favour a group of children

Demerits of Formal Assessment:

1. It is time consuming
2. It does not take into account individual differences among children.
3. It can only be carried out by a professional or trained person.
4. It does not follow any rigid procedure

Types of Formal Assessment

1. **Norm-Referenced Tests:** - this test allows for comparison of student's knowledge over the content and particular skill levels between students and with those of other students in the relatively same group. Some of the popular commercially standardized achievement tests are: California Achievement Test (CAT), Test of Basic Skills (ToBS), Standardised Achievement Test (SAT) etc. These tests are normed, that is the results are compared across ages and grades statistically so that a mean or average for each grade and age created which are the grade equivalent and age equivalent that are assigned to the individual.
2. **Aptitude Test:** - This test is used to measure knowledge that a student already has when entering a classroom or grade level and is essential for the teacher to know beforehand the student's level of performance and success in the class.

3. **Intelligence Test:** - This is part of a battery of test used to evaluate the aggregate or global capacity of an individual in dealing effectively with the environment. E.g. Wechesler Intelligence Scale for Children (WISC) and Standford Binet Intelligence Scale.
4. **Individual Achievement Test:** - useful for assessing students' academic abilities.

Informal Assessment:

Informal assessment is the type of assessment which does not follow any strict standard procedure; it is casual way of finding out about a pupil's performance. It can be done in the home, classroom, school compound etc. it does not required any professional training. A good example of this assessment is observation of performance of children in class.

Purpose of Informal Assessment

1. To find out which area of the curriculum emphasis should be put
2. To identify skills a child has mastered
3. Find out environmental conditions that has effects on learning
4. To identify the strengths and weaknesses

Characteristics of Informal Assessment

1. It does not have strict procedures
2. It has many different ways and approaches
3. It may not deal with paper and pencils test
4. There are different ways of scoring and interpreting scores
5. Assessment can be done by anybody

Merits of Informal Assessment

1. It helps teacher with information on what to teach the child at the next stage
2. It helps to identify a specific difficulty a child has
3. It enables the teacher to know the strength and weaknesses a child has
4. It can be used at anytime and anywhere
5. It can be used by both professional and nonprofessional

Demerits of Informal Assessment

1. It produces results that are not reliable
2. It is not possible to compare a child's academic performance with the of his peers
3. It does not follow any rigid procedure
4. Information obtained cannot be used for placement

Types of Informal Assessment

1. **Interview** – it is a face-to-face conversation between two people i.e. the interviewer and interviewee. Interview helps to obtain information about certain issues or people
2. **Task analysis** – it is process whereby a major task is broken into smaller task. It helps to find out what a person can do and what a person cannot do. It can be used as assessment technique or teaching technique.
3. **Observation** – it is generally said that most assessment whether formal or informal begins with observation, these are direct observation and indirect observation

4. **Criterion reference test (CRT)** – CRT is the type of assessment tool that identified the extent to which a child has mastered on area of content in the curriculum. It is mainly concerned with the skill a child has presumably mastered in a subject-area.
5. **Curriculum Bases Assessment (CBA)** – CBA has the aim of finding out what the child has learned as far as the broad goals of the curriculum are concerned. It enables teachers to have information on a child's academic, social and emotional dispositions.
6. **Portfolio Assessment** – this is concerned with the assessment of a child's performance products e.g. crafts, art exercises and others. A portfolio is a collection of student work that provides a holistic view of the student's strengths and weaknesses. The portfolio collection contains various work samples, permanent products, and test results from a variety of instruments and methods. For example, a portfolio of reading might include a student's test scores on teacher-made tests, including curriculum-based assessments, work samples from daily work and homework assignments, error analyses of work and test samples, and the results of an informal reading inventory with miscues noted and analysed. These measures should however be collected over a period of time to be considered as a portfolio. This may be useful in describing the current progress of the student to his or her parents. Possible products that could be included in a portfolio include: samples of student writing, vocabulary journal, artwork, project papers, photographs, and other products of work completed, group work, papers, projects, and products.
7. **Ecological Assessment** – it is the influences of the teacher, peers, parents and other family members as well as the mass media on children's behavior.
8. **Work Sample Analysis** – Work sample analysis is done to determine areas of successful performance and areas where the pupil might require assistance. Work sample analysis deals with analysis of the child's permanent product. It is done by examining a sample of pupil's work such as essay to find inaccuracies in words or spellings, mathematics exercises and comprehension assignments. There are two approaches to work sample analysis: **Response analysis:** - in this approach both correct and incorrect responses of pupils are examined to for patterns, consistent errors, frequency, duration, and rate. For example, a child with mathematical difficulties may constantly interchange the basic operations creating error patterns in his/her workbooks. **Error analysis:** - this focuses on error patterns. After scoring a work sample, all errors are examined and sorted into meaningful categories. The successful use of error analysis lies with the identification of one or more patterns of errors. In language arts, error analysis may be found in additions, omissions, substitutions, repetitions, and insertions.
9. **Checklists:** - A checklist is an observation technique in which the observer makes a list of all behaviours or tasks an individual is expected to perform within a specified period i.e. within an academic year. It is used to determine whether an individual behaves in a certain (usually desired) way when asked to complete a particular task. A checklist specifies student behaviours or products expected as they progress through the curriculum. The items on the checklist may be content area objectives such as reading proficiency or mathematical accuracy. In this, all the behaviours or tasks expected from the student are listed on a datasheet and the teacher indicates by ticking the tasks that an individual can perform.

Thus, if a particular behaviour is present when an individual is observed, the researcher places a check mark opposite it on the list. Checklists are appropriate when the range of items in the list is fairly limited. They are also reliable and easy to use and can be a record of students' rate of accomplishment within the curriculum.

10. **Rating Scales:** - Behaviour rating scales are instruments designed to obtain more quantitative information from informants. Rating scale is a measured judgment of some sort. Thus, when we rate people, we make a judgment about their behaviour (such as how well a person gives an oral report) or products (such as a written copy of a report). Rather than recording the presence or absence of a behaviour or skills, the observer subjectively rates each item according to some dimension of interest. For example, a reading proficiency may be rated as 5 (excellent), 4 (very good), 3 (good), 2 (poor), or 1 (very poor). These provide information of the extent to which the individual manifests the behaviour of interest. Also, informants may be asked to respond to items describing behaviour with a rating, (for example, 0 - never, 1 - seldom, 2 - usually, 3 - always). The task(s) or behaviour(s) that receive the highest rating may be considered the strength(s) or weakness(s) of the individual.
11. **Inventories:** - Inventories are designed to establish the entry level of the student. Thus, inventories are mostly used for diagnostic purposes. It is a pre-teaching assessment tool which enables the teacher to establish the current level of a child's performance before entering the class. This enables the teacher to provide the necessary interventions where the need be. In using inventory the teacher lists all the tasks expected of the child on a data sheet. The teacher then ticks the behaviours or tasks as the child performs the activities.
12. **Anecdotal Reports:** - Anecdotal report is a record of observed behaviours written down in the form of narratives (anecdotes). Anecdotal reports are written to provide a description of a student's behaviour as complete as possible in a particular setting or during an instructional period. They are written to provide as complete a description as possible of a student's behaviour and the events surrounding it. Anecdotal reports are recorded in regular prose each occurrence of a target behaviour and the context, activities, and interactions within which it occurs. This is done within defined observation periods, preferably over several days. There is no set format; rather, observers are free to record any behaviour they think is important. To produce the most useful records, however, observers should try to be as specific and as factual as possible and to avoid evaluative, interpretive, or overly generalized remarks. Anecdotal reports do not identify predefined or operationalized target

behaviour. After recording and analysing data, the observer expects to identify a specific behaviour that needs changing. It can be used to collect data on general disturbance or a lack of academic progress. This system of data collection produces a written description of nearly everything that occurred in a specific time period or setting. It results in a report written in everyday language, describing individuals and interactions, rather than isolated marks on a data sheet.

Professionals Involved in Assessment

There various professionals from varied disciplines who may be involved in the assessment. Generally, assessment involves:

1. Medicine: - these are health personnel i.e. neurologists, paediatrists, psychiatrists, ophthalmologists, or optometrists, audiologists and speech and language therapists.
 2. Education professionals include regular and special education teachers)
 3. School psychologists
 4. Social services (Department of Social Welfare).
- **NEUROLOGISTS:** - They are physicians who deal with problems related to the central nervous system and its diseases. More often neurologists are consulted when there is suspicion that the cause of a person's disability is organically related. Their functions include; examining or studying a child's medical history, examining his or her reacting and reflexes, giving a brain wave test or electroencephalogram (EEG) to measure the electrical activity of the brain, prescribing tranquilizers and other drugs following examinations.
 - **PSYCHIATRISTS:** - Psychiatrists are physicians who deal with the emotional problems that often appear as a secondary reaction to disability. They are more likely to deal with behaviour and emotional problems and ADHD. They prescribe various therapies as part of their programmes of remediation. They help in identifying the emotional and behavioural challenges of children.
 - **PAEDIATRICIANS (family doctors):** - These are medical professionals who are concerned with the diagnoses, treatment and prevention of childhood diseases. They are likely the first professionals to detect an abnormality in the child's development because they see a child from an early age over a long period of time. They may observe more subtle signs of minor neurological damage, such as co-ordination. Parents consult paediatricians when they suspect their child to be at risk of developmental delays such as motor skills or acquisition of language.

- **PHYSIOTHERAPISTS OR PHYSICAL THERAPISTS:** - These are health practitioners who are responsible for helping people who have diseases or injuries in the muscle, joint, or bone. These conditions may make it difficult for the child to achieve balance and coordination. They may help in identifying children with physical and motor problems.
- **OPHTHAMOLOGISTS:** - These are medical eye specialists who concentrate on the diagnosis and treatment of defects and diseases of the eye by prescribing lenses, performing surgery, using drugs and other forms of medical treatment. They diagnose defects and diseases of the eye. They perform surgery in the eye. They prescribe lenses to correct vision or refractive errors. They use drugs and other forms to treat eye diseases.
- **OPTOMETRISTS** are also medical professionals who specialize in examination, diagnosis, and treatment of diseases and disorders of the eye. They examine the child's eye to diagnose vision problems such as; Refractive errors such as myopia (near sightedness), hyperopia (far sightedness), presbyopia (old age blindness) or astigmatism and prescribes lens for clear vision. They prescribe and fit glasses to correct ocular defects being it concave or convex. They can prescribe eye exercises or training procedures for the learning disabled. They provide preoperative and postoperative care to cataract patients and patients who have had corrective laser surgery. They encourage preventive measures by promoting nutrition and hygiene education to minimise the risk of eye diseases. They ensure that the child sees clearly and also ensure how efficiently the child's vision allows him/her to function by providing routine eye examination.
- **AUDIOLOGISTS** are specialists interested in normal and abnormal aspects of hearing. They are primary healthcare professionals who are trained to evaluate, diagnose, treat, and manage hearing loss and balance disorders in adults and children. Their functions include prescription and fixing of hearing aids and other assistive devices, assist in cochlear implant programme, perform ear or hearing related surgical monitoring, design and implement hearing conservation programmes and provide hearing rehabilitation training such as auditory training, speech reading and listening skill improvement. Hearing problems may occur in any part of the ear – outer, middle, or inner ear. Hearing problem can occur as a result of blockage in the auditory canal, defects in the middle ear i.e. stapes, incus and malleus, or cochlea damages. The audiologists uses audiometer to test hearing

levels. They are useful to teachers because they make recommendations for seating arrangements and advise on how the ear can be taken care of.

- **SPEECH AND LANGUAGE THERAPISTS** focus on providing a stimulating but structured environment for practising language patterns. They are concerned with articulation deficits, voice quality, and the acquisition of both expressive and receptive language. They test the child's pronunciation, vocabulary, and grammar and compare to the developmental abilities found in other children of the same age. They help the child with communication difficulties to develop their communication skills in speech, language, socialization, play and interaction.
- **SCHOOL PSYCHOLOGISTS** work in educational institutions. They do diagnostic assessment, observation and therapeutic counselling of children with cognitive problems. They assess the child's intellectual functioning, behavioural observations, and special psychological indices of particular learning problems. Through psychometric test results they provide important suggestions for managing various types of behaviour problems in the classroom.
- **REGULAR CLASSROOM TEACHER:** - Regular classroom teachers emerge as the most important professionals working with the child with disabilities in inclusive classrooms. Their role has been described as increasingly more important in the remediation process. Their roles include; identifying, remediating, and assessing children who may be at risk of developing a disability.
- **SPECIAL EDUCATION TEACHERS:** - may also provide useful information related to the child's learning especially where special education is required.

UNIT 4

MANAGING THE LEARNING ENVIRONMENT

Classroom Seating Arrangements

Seating arrangements refer to the layout of desks and chairs within the classroom. This reflects both where students choose to sit and where they are assigned to sit. Wannarka and Ruhl (2008) showed that seating arrangements can increase on-task behavior and decrease off-task behavior. Classroom seating arrangements are not only important for students' academic development, but also for their social functioning in the classroom (Farmer, Lines, and Hamm 2011; Gest and Rodkin 2011).

Factors that Influence Classroom Seating Arrangements

1. **Classroom Size:** Your preferred classroom seating arrangement can only be applied if you have the appropriate space and school furniture.
2. **Distractions:** It is important that your classroom seating arrangements can keep students from getting distracted.
3. **Student's Age:** It is not the same teaching adults than teaching teenagers and children that have disruptive behaviour so your classroom seating arrangement will depend on the students that you have in your classes.
4. **Class Size:** There are teachers who have to teach large classes so they have to be creative if they want to keep their preferred desk setting.
5. **Teaching Styles and Objectives:** Choose the classroom arrangement that support your teaching style and objectives.

Types of Classroom Seating Arrangements

1. **Traditional (Rows/Columns):** - A traditional classroom is designed with rows of seats, all facing toward the front of the classroom. It's one of the most common styles of classroom design across all levels of primary education and in some post-secondary institutions.

Advantages

- Focuses on the front of the room, which naturally directs students' attention in a single direction toward the teacher
- Creates space for teachers to walk between the rows and columns with easy and fluid access to all students

- Makes it harder for students to cheat on tests by creating distance between students evenly across the classroom

Disadvantages

- Makes student collaboration more difficult due to the back-to-front design and desks being spread evenly apart



2. **Stadium Seating:** - In this classroom design, desks or tables are placed in angled rows with desks touching. Stadium seating focuses the students' attention to a single point at the front of the room. Desks are grouped in clusters but all facing the same direction. This layout is best suited teacher-centric classes.

Advantages:

- Enables the teacher to see what every student is doing because the rows are angled against a fixed point at the front of the classroom
- Gives all students a clear view of the teacher

- Uses less floor space by condensing the amount of total space needed between desks
- Allows students to work collaboratively with neighbors and those in the immediate row

Disadvantages:

- May place some students too far away from the front of the room (depending on how many rows are used or how wide each row is)
- Tougher to enforce classroom management after two rows
- Less suitable for classrooms that often require group working stations due to the rows' unique shape and condensed seating



3. **Horseshoe/Semicircle/U-shaped:** - In a horseshoe setup, desks are placed in a semicircle. The desks face the front of the room and focus students' attention to the center of the room. The horseshoe style is typically used for demonstrations or group discussions. Horseshoe/U-shaped. This model supports both student-to-student interaction and teacher-to-student interaction. The class interacts in a large group format, though teachers have ample opportunity to work with students one on one. Courses that emphasize discussions and presentations typically function well with this configuration.

Advantages:

- Great for discussions because students can easily see and engage with each other around the perimeter of the seating design
- Directs focus to a central point all students can see and places all students equidistant from the central focus
- Allows the teacher to easily see all students

Disadvantages:

- Uses more space than other designs and may not be possible in smaller classrooms
- Hinders small-group discussions because students may often require the full scope of the classroom to communicate across the seating design
- Easier for students to cheat during assignments because their visible range is increased, and multiple angles of view make it hard to properly police roaming eyes



4. **Groups/Clusters:** - Also known as pods, this style places desks together in groups. In this arrangement, students can collaborate together as well as receive both small-group and large-group instruction from the teacher. The group arrangement can be good for work stations and regular lesson plans, among other uses. Clustering the desks into small groups promotes student-to-student interaction. Students develop skills such as communication, problem solving, collaboration, and more in this arrangement. These clusters offer safe and comfortable environments for students to share ideas. This comfort, however, also lends itself to off-task behavior and large increase in noise level and distractions.

Advantages:

- Allows for collaboration between students within their group
- Allows teachers to interact with students on an individual or small-group basis
- Easy to set up and reconfigure for different situations as needed, such as a jigsaw activity

Cons:

- Uses more space than other designs and may not be possible in smaller classrooms
- Requires a healthy classroom community so the students are all paying attention to the lesson and their tasks; may not be ideal for students who have difficulty remaining focused
- Easier for students to cheat during assignments due to the close proximity of their group neighbours.



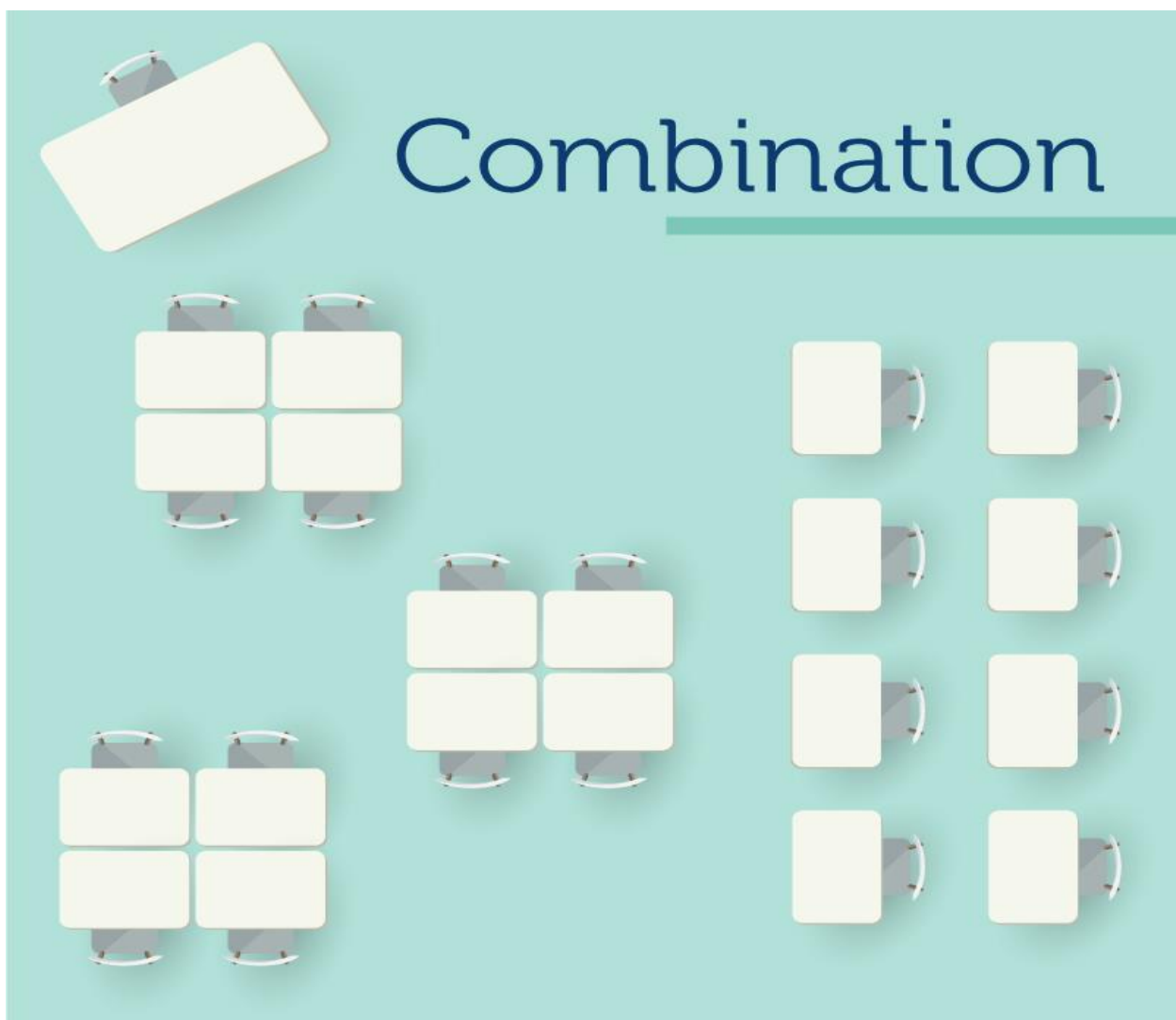
5. **Runway:** Best used with smaller classes, this setup puts the emphasis on the educator. The teacher uses the runway between the two rows of facing desks to conduct the lessons. This layout is great for discussions and lecture based classes.
6. **Combination:** - In a combination classroom arrangement, teachers can use the best parts of two or more classroom designs. The arrangement can be changed on a day-to-day basis or be permanent. Teachers can use this design during a lab or an activity that has rotating stations. Classrooms with different sizes of desks may use this style.

Advantages:

- Allows for a flexible design that can facilitate a workshop exercise or have students move from one station to another
- Makes use of whatever desks are available by not requiring specific sizes or dimensions to create a functional classroom design

Disadvantages:

- Doesn't allow for uniformity across the class
- Doesn't give every student the same view of the teacher or the same size or shape of workspace.



Discuss the following with your study group members (Resort to the internet for some additional information)

1. Managing noise level
2. Establishing classroom rules and regulations
3. Ventilation
4. Co-teaching
5. Collaboration with parents and professionals

UNIT 5

USE OF INSTRUCTIONAL TECHNIQUES

Teachers need to find new ways to engage their students in the learning process, while helping them strengthen their academic skills. Peer tutoring is a technique proven to work well with a variety of learners in different classrooms.

Peer Tutoring

Peer tutoring in special education is a strategy where higher performing students are paired with lower performing students or students with disabilities to review or teach academic material. This strategy has been proven to help students on both sides master content and gain self-confidence in specific skills. Peer tutoring has been implemented with students of all ages and levels in all subject areas. Introducing a peer tutoring program to help students with disabilities and their typical peers may be an effective and efficient way to boost academic achievement. Teachers and administrators should consider the different ways to implement a program as well as the advantages and weaknesses as they determine whether a peer tutoring program would be a good fit in their schools and classrooms.

Advantages of Peer Tutoring

Peer tutoring in special education can be an effective teaching method for all students involved. Let's look at some of the specific advantages.

- Peer tutors become teachers, which increases their own understanding of the material.
- Peer tutoring helps the students build relationships, which builds communication and social skills.
- Some students with disabilities respond better to peers than adults.
- Students with disabilities get more individual attention than one teacher can provide on their own.
- Because of increased individual attention, students with disabilities also get immediate feedback and positive reinforcement more frequently, which results in higher academic performance.

Disadvantages of Peer Tutoring

Although peer tutoring has many strengths, there are also challenges that should be considered.

- Planning and preparing for peer tutoring requires additional time and organization for the classroom teacher.
- Peer tutors must be trained, monitored and graded, which takes time and energy away from other important classroom tasks.
- Some parents are opposed to peer tutoring because they don't see the benefits for their child. This means that teachers must educate and convince them of the benefits.

Peer Tutors

A peer tutor is anyone who is of a similar status as the person being tutored. In this case, it's a student in elementary school tutoring another student from the same elementary school.

Cross- Age Peer Tutoring

In cross- age peer tutoring, the tutor is older than the tutee.

Same- Age Peer Tutoring

Same- age peer tutoring is where peers of the same age/grade are paired together.

Classwide Peer Tutoring (CWPT)

CWPT is a teaching strategy based on reciprocal peer tutoring where the entire classroom of students is actively engaged in the process of learning and practicing basic academic skills simultaneously in a systematic way.

Strategies

There are a variety of factors teachers should be aware of when planning a peer tutoring program. Different schools, classrooms, and teachers are able to provide different types of resources and expertise to contribute to the success of a peer tutoring program. Keep in mind, the strategies described in this lesson will not work in every situation with every student all the time. It's up to you as the teacher to assess these strategies and see what will work for your specific population of students. Peer tutoring is meant to be a flexible and adaptable teaching method, which should allow for some trial and error as you shape your individual programs.

Peer tutor partnerships may be designed in a few different ways. Teachers may assign some of their higher achieving students to work with peers in the classroom who are struggling, or they

could assign students with similar abilities to work together, each taking turns being the tutor and the tutee. They may also work with other teachers to pair up older students who have mastered the content with younger students who are being introduced to something new, which is known as **cross-age tutoring**.

Regardless of which type of partnership is selected, teachers should plan to hold training sessions for peer tutors to ensure they understand their roles and responsibilities. Research indicates that explicitly trained tutors are far more effective in their teaching, and their tutees make significantly more progress. The following list isn't comprehensive, but gives some examples of what might be included in a training session.

Cooperative Learning/Grouping

Cooperative learning is learning based on a small-group approach to teaching that holds students accountable for both individual and group achievement (Orlich, Harder, Callahan, Trevisan & Brown, 2010). Cooperative learning takes many forms within classrooms. Its essential characteristic is that it fosters positive interdependence by teaching students to work and learn together in a small-group setting. Traditional cooperative learning groups consist of three to four students who work on an assignment or project together in such a way that each group member contributes to the learning process and then learns all the basic concepts being taught. Cooperative learning provides unique learning experiences for students and offers an alternative to competitive models of education. It is especially beneficial to students who learn best through social or group learning processes (including those with varied disabilities). It offers opportunities for students to learn through speaking and listening processes (oral language) as well as through reading and writing processes (written language).

Characteristics of Cooperative Learning

1. Uses small groups of three or four students (microgroups).
2. Focuses on tasks to be accomplished.
3. Requires group cooperation and interaction.
4. Mandates individual responsibility to learn.
5. Supports division of labour.

Benefits of Cooperative Learning

Cooperative learning offers many benefits: For students, it improves both academic learning and social skills; for teachers, it is an aid to classroom management and instruction. Cooperative learning enhances students' enthusiasm for learning and their determination to achieve academic success. It has been shown to increase the academic achievement of students of all ability levels.

1. Improves comprehension of basic academic content
2. Reinforces social skills
3. Allows student decision making
4. Creates active learning environment
5. Boosts student self-esteem
6. Celebrates diverse learning styles
7. Promotes student responsibility
8. Focuses on success for everyone

Criticisms of Cooperative Learning

Several criticisms have been levelled at the concept of grouping together students of varying abilities.

1. Advocates for gifted children believe that heterogeneous grouping may hold back those with the greatest academic talent. Advocates for students with learning difficulties on the other hand state that children with disabilities may not get a chance to improve their reading, writing, and math skills when they receive so much assistance from peers.
2. Another frequently heard criticism of traditional models of cooperative learning concerns the practice of rating, grading, or rewarding students on the basis of group accomplishment. Sometimes a student may do his or her part of the group work but receive a low grade because some other student in the group failed to follow through. This creates unfairness and atmosphere of blame.
3. In addition, awarding privileges on the basis of group performance once again sets up a competitive process and undermines cooperation and success for all.
4. Planning for cooperative learning is always difficult
5. Grouping of students can be problematic

6. Clear rules must be established otherwise it can turn into a funfair.

Features of Cooperative Learning/Strategies to promote effective cooperative learning in Inclusive Classrooms

Traditional models of cooperative learning share five distinct: positive interdependence, face-to-face interaction, individual accountability, development of social skills, and group evaluation.

1. **Positive Interdependence:** - “Positive interdependence is the perception that one is linked with others in a way that one cannot succeed unless they do (and vice versa) and that groupmates’ work benefits you and your work benefits them” (Johnson & Johnson, 1992). Interdependence guarantees that all students take part in the group work and contribute. It is the teacher’s responsibility to distribute the tasks in a way that every individual contribution is indispensable for the end result. Additionally, the teacher has to avoid overwhelming individual students. The lesson planning has to be adjusted according to the different learning levels of the students in an inclusive classroom.
2. **Face-to-Face Interaction:** - One of the purposes of cooperative learning is the close social interaction with mutual encouragement, assistance and socio-cognitive conflict. Socio-cognitive conflict is an essential element of cooperative learning forms and describes the situation when two students have contrasting approaches in order to solve a problem. This clash of contrasting problem solving strategies is called socio-cognitive conflict. This cognitive conflict “leads to progress when a student takes into account his perspective while considering another’s incompatible viewpoint” (Webb, 2009). In order for the students to benefit from this socio- cognitive conflict, especially in an inclusive learning group, the teacher has to pay attention to the group constellation. It needs to be assured that every student can equally contribute to the group. It is the instructor’s task to teach “leadership, decision-making, trust-building, communication, and conflict-management skills [...] just as purposefully and precisely as academic skills” (Johnson & Johnson, 2014) in order to facilitate the success of a group effort.
3. **Individual Accountability:** - Individual accountability “exists when the performance of each individual student is assessed and the results given back to the group and the individual” (Johnson & Johnson, Cooperation and competition: Theory and research, 1989). Each group member independently works on the assigned task and afterwards, receives feedback from the group. While planning an exercise, the teacher needs to assure that every student has a chance to contribute to the assignment. Without the contribution of every student, the end result is not complete.
4. **Development of Social Skills:** - “Students promote each other’s success by helping, assisting, supporting, encouraging, and praising each other’s efforts to learn” (Johnson & Johnson, 2014). The exchange of various ideas with others strengthens tolerant behavior towards contrasting opinions, trains finding problem solving strategies and eases the change of perspective. Cooperative learning is a double challenge for students. They are expected to work on an assignment and at the same time, they need to make sure that the group works efficiently. The teacher cannot presuppose that all students have the necessary

competences for managing this double responsibility. It is the teachers' task to convey and practice these essential competences with the learners.

5. Group Evaluation: - At the end of a working process, students evaluate and reflect on the textual and communicative group work and if necessary make suggestions for improvement. Firstly, a teacher has to guarantee that his students have the ability to appropriately evaluate and reflect on their own working process. Therefore, it is necessary for the teacher to “focus students on the continuous improvement of the quality of the processes” (Johnson & Johnson, Cooperative learning in 21st century, 2014) and teach evaluation and self-assessment strategies. Secondly, it is the teachers' responsibility to supervise the learner's evaluation process and engage the students in some kind of quality management.

Peer Tutoring

Peer Tutors

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Cross- Age Peer Tutoring

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Classwide Peer Tutoring (CWPT)

CWPT is a teaching strategy based on reciprocal peer tutoring where the entire classroom of students is actively engaged in the process of learning and practicing basic academic skills simultaneously in a systematic way.

Selecting and Establishing Classroom Rules

The purpose of establishing rules is to enhance students' academic and social achievement (see Marzano, Marzano, & Pickering 2003). Teachers who are effective managers explain the importance and need for each rule, teach students how to follow rules and procedures, and begin with the rules that are of the most immediate importance. (How do I get permission to leave the room? How do I ask a question?) They state rules clearly and enforce them consistently. On again, off-again enforcement contributes to student behavior problems. Effective teachers also make rules that are not related to discipline. These cover classroom routines for distributing materials, transitioning to new activities, starting and ending class, obtaining permission to leave the classroom, and accomplishing tasks such as sharpening pencils (norms). Simplicity is the hallmark of effective rules (Kentucky Department of Education 2008). If your rules are complicated, you will not be able to enforce them, and students will become confused. Thus simplicity will allow you to easily explain and enforce your rules.

Characteristics of Effective Classroom Rules

The effective teacher has clearly stated classroom rules and provides firm, clear, concise reinforcement of these rules when it is appropriate. Effective rules:

- _ are limited in number
- _ are observable (not vague)
- _ apply at all times of day in all school locations
- _ apply to behaviour only and not to academics
- _ are selected with democratic student participation

Involve students in establishing the rules and sanctions

Individualized Instruction vs. Differentiated Instruction

In a typical classroom, you'll find students who are reading above their grade level and others who are behind. You might find that some learn best by working with other kids, while others prefer working alone. And some students need special help along the way to fill in areas where they struggle.

The best teachers reach all their students by giving the whole class a great experience. But they change up the material a bit for each student so everyone learns at their own pace.

Differentiated instruction is a teaching method for *groups* of students. **Individualized instruction** starts with the needs of the *one* student. Here's what you need to know about both approaches.

Differentiated Instruction

Flexible groups are at the heart of [differentiated instruction](#). The same students are not in the same group for every activity or assignment. Each student is moved around according to her abilities. Teachers design their lessons around the needs of each group. For example, one group might write a paragraph after listening to a reading, while another group puts on a skit. A third group might create a poster or an art project to show what they've learned. Students may read books on topics that are closely matched to their reading levels.

Individualized Instruction

Individualized instruction focuses on the needs of the individual student. Teaching is specific and targets one need at a time. This teaching method can be used on its own, or it can be part of differentiated teaching. Some students who receive individualized instruction need teachers to help them understand and learn. Other students using the same teaching method can skip topics they already know and go on to advanced information.

Special education is a great example of individualized instruction. Students who receive special education services have an [Individualized Education Program](#) (). Through an IEP, the school can meet their individual needs and provide just for them.

Individualizing Instruction

Teaching to special needs and individualizing instruction go hand-in-hand. A teacher who hopes to address the special needs of students must see the classroom as a group of distinct students and must teach the class as a group of individuals not as a class. So,

how does a teacher individualize instruction? Some of the more typical, instructional strategies that individualize instruction include: (1) varying assignments in ways that take advantage of unique student abilities, (2) using verbal, visual, and kinaesthetic techniques in presentations, (3) using cooperative learning activities like peer tutoring and small group learning, and (4) using interactive computer programs designed for individual students.

To meet the needs of individual students, teachers can adapt, manipulate, and change the (1) organizational structures of the class (groups, learning centers, reward structures), (2) materials (examples, analogies, points of emphasis, reviews, summaries), (3). support materials (aides, media), (4) level and form of questions, (5) amount of time spent with individual students, (6) feedback, (7) pacing, and (8) evaluation to name a few. The point is that the entire classroom experience can and probably should change.

Some strategies are more helpful in preparing students to become more independent learners than others. These strategies include: (1) provide a structured outline to students, so that they know what to expect, (2) teach sequentially step-by-step, from concrete to more abstract, (3) check frequently for comprehension to ensure that students are keeping up, (4) provide for over learning and adjust the pace accordingly, and (5) encourage students to ask for individual extra help. These activities provide a positive structure that help students feel comfortable within a learning environment.

Individualised instruction consists of any steps taken in planning and conducting programmes of studies and lessons that suit individual student's learning needs, learning readiness, learner characteristics and learning style.

Learning needs can be identified with the grade-level curriculum or they can be seen as reflecting individual experiences and interest.

Ways of conducting individualised instruction

1. Determine what learning task the student needs to accomplish next in the curriculum (or has not mastered in the content)
2. Assess the extent to which the student already has mastered the chosen task. This calls for diagnostic assessment of the students' current level of performance relevant towards the performance of the chosen task (entry behaviours)
3. Diagnose the student in terms of learning readiness and style to determine how best he or she can work on the task. I.e. mode of individualised instruction, learning environment chosen, needed materials, teaching or learning methods, and assessment procedures.
4. Decide on a lesson plan. This should be based on pre-assessment and diagnostic information in step 2 and 3.
5. Provide student with help as needed in performing the learning task.
6. Assess the student's performance of the lesson to determine whether mastery has been achieved. If the student shows mastery of the task objectives, planning the next lesson should follow. If mastery has not been shown, further study is needed often using a revised lesson plan or remedial instruction.

The results suggested that remedial teaching was beneficial to the students' academic and emotional perceived self-efficacy. The improvements emphasized that individualized remedial teaching, direct supervision from teachers, and an appropriate support system led to better academic and emotional self-efficacy. Such findings underscore the importance of recognizing students' individual differences and characteristics in learning.

Remedial Teaching to Promote Academic Success

At-risk learners present significant challenges for teachers. Their learning difficulties typically include a weak knowledge base, underdeveloped skills, poor problem-solving abilities, the inability to organize information, poor motivation and a negative attitude toward oneself (McLaughlin & Vacha, 1992; Olivares, 1993). To improve

learning effectiveness, the needs of those with learning difficulties must be addressed although most students are interested in and capable of learning. Remedial teaching is designed to cater to the needs of students who are unable to progress with the class in a normal classroom. These students typically function and perform at a lower than average level because of learning or learning related problems. Thus, the major objective of remedial teaching is to ensure that low-achievers can attain learning competencies according to their capabilities and characteristics. As there is a growing consensus that effective interventions help at-risk students reconnect with their peers and learning, research (Christenson & Thurlow, 2004) pointed out that remedial teaching must assist students find a match between their characteristics and the school environment so that their academic and behavior demands can be met. More importantly, individualized programs with intensive remedial sessions can be implemented to help students consolidate basic knowledge, master their learning strategies, strengthen their confidence and increase the effectiveness of their learning because an appropriate education should help the students to acquire skills and develop concepts that will be useful throughout their lives. Studies have shown that students who received remedial teaching were more motivated and more likely to achieve academic success than their peers who did not take remedial teaching classes (Dougherty & Kienzl, 2006; Jadal, 2012; Luo, 2009; McLaughlin & Vacha, 1992; Tian, 2004; Yang, 2010). With appropriate and additional help, low-achievers' learning difficulties can be identified to provide further scaffoldings.

Overview

To reinforce means “to strengthen”. In education, we use reinforcement techniques to provide students with feedback on the acceptability of their performance and thus, to strengthen desirable performance and minimize or eliminate undesirable performance. The specific techniques used to reinforce behavior or learning may vary with relation to what the instructor finds most effective. Be aware of the effects each technique can have on adult learners.

There are three reinforcement techniques I will address in the article. The first type of reinforcement is rewarding. This is classified as Positive Reinforcing. The next type of reinforcement is punishment. This is classified as Negative Reinforcement. The final type of reinforcement is extinguishing. This is done to eliminate a behavior and is designed to encourage or discourage behaviors or learning. Another term for this is behavior modification.

Always encourage students to ask questions. This will insure that they have an understanding of the lesson or concept.

Positive Reinforcement

A positive reinforcer is any action by the teacher that encourages the student to behave in the desired way. Reduced to its most basic form, positive reinforcement (reward) theory states that when a student performs some act, such as giving a correct answer to a teacher's question, and he/she is rewarded for it by the teacher, he/she is more likely to repeat the act in the future.

The purpose of the positive reinforcement is to reward the correct behavior that took place immediately before the reinforcement. The effect is to make that behavior more likely to recur. As the student repeats the response and is given further rewards, the behavior becomes more firmly established until it is "learned".

Rewards may take the form of special privileges or personal approval. Often, the rewards for learning will come from the reinforcement provided by the learning outcomes.

I will use a real life example to validate the use of positive reinforcements. In the **Administering Medication Class**, the focus was on vocabulary building. Medical terminology can be difficult for students to learn if they are not familiar with it. By creating a game out of learning the vocabulary words and rewarding the student with "bonus points", the students were exposed to an enjoyable learning experience. The students were able to increase a lower grade when these "bonus points" were applied. The results were two-fold. Not only did the students gain knowledge but they were also receiving compensation (improved scores on exams.)

Research demonstrates that if learning is to take place, the following four guidelines must be followed:

1. The subject matter must be presented to the student at his/her own level.
2. The subject matter must be presented in a logical sequence.
3. The student must know when he/she is making correct or incorrect responses.
4. Reinforcements must be given as the student gets closer and closer to the defined goal.

Positive reinforcement is by far the most useful and effective type of reinforcement to use while teaching subject matter. Positive reinforcement creates an atmosphere that is inductive to learning. It also makes the learning processes quicker and more efficient. When you have only a limited variety of reinforcing words, expressions, motions, and rewards available to you: it is advisable to use them well.

Reviewing with students in discussion groups allow them to help each other in the learning process.

Negative and Extinguishing Reinforcements

I mention these techniques only for purposes of information. They can be less desirable methods to use and the affects can be detrimental or threatening to the student. Caution is recommended when considering one of these.

Negative Reinforcements

A negative reinforcement is used to discourage undesirable behavior through the use of punishment as consequences. This procedure is generally used with children and not recommended for use with adults. Since most adults work and/or have limited time, it is not feasible to “keep them after classes” or referring them to the school administration for reprimand.

Extinguishing

When a student behavior is not followed by any reward or other reinforcement, that behavior is likely to occur less frequently. This kind of “no reinforcement” tends to reduce the behavior to extinction and is, therefore referred to as extinguishing. The most common form of extinguishing is ignoring the student behavior concerned. This is another procedure that I would not recommend for your adult learner.

Students love it when you turn learning into a game - especially older learners!

Other Effective Techniques

Verbal and Nonverbal Cues

There is a striking relationship between teacher behavior that is stimulating, imaginative, and physically animated and student learning. Gestures, facial expressions, and movement seem to help students comprehend the structure of the lesson, to direct their attention to the important ideas as they occur, and to stimulate attention. They also reinforce desired student behavior by letting students know when you approve of their questions or comments. Make sure that the message you wish to relay is displayed in the appropriate verbal and nonverbal cues you use.

Strengthening Techniques

Two effective strengthening techniques I will mention are summaries and reviews. Summaries and reviews both allow students to look at material again (either with the same focus or from a different perspective) in order to help them grasp the key concepts and retain them. In summarizing a lesson, you

1. Condense the important points covered into a brief summary,
2. Review with the students all the important points covered,
3. Encourage students to ask questions or express ideas, and
4. Use students’ responses to reinforce or clarify the important concepts.

Summing it up!

Summing it Up

Important points to remember:

- A positive reinforcer is something that increases the probability of the behavior being repeated.
- Positive reinforcement must follow the desired behavior, not precede it.
- The reinforcement should follow the student's response immediately or very shortly afterward.
- At first, the positive reinforcement should be given for every correct response, then less frequently.
- The reinforcement must be omitted when the desired behavior does not occur.
- Negative and extinguish reinforcement techniques are not recommended for reinforcing adult learners.
- Use both verbal and nonverbal cues to reinforce student behavior.

Once you have decided to incorporate your method of reinforcing your students, remember to strengthen the techniques with summaries and reviews. Your students will appreciate the extra effort.

Reinforcement Techniques

Which reinforcement techniques have you been exposed to?

- ☐ Positive Reinforcements
- ☐ Negative Reinforcements
- ☐ Extinguishing Reinforcements
- ☐ A Combination of Reinforcements