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TEACHER'S PEDAGOGIC COMPETENCE ON THE SOCIAL INTERACTIONS OF HEARING IMPAIRED STUDENTS: CASE STUDY "COLLEGE ADVENTISTE"

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To my precious parents Mr. YIMO PIAM Pierre Marie and Mrs. SIMO Jacqueline

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ABSTRACT

This study was conducted to examine the impact of teacher's pedagogic competence on the social interactions of hearing impairment students in the Adventiste Secondary school in Yaoundé 1, which is found in the Centre Region of Cameroon. The objective of the study was to find out if teachers Pedagogic Competences affect the social interactions of hearing impaired students in the Adventiste Secondary school. With the main research question to know the effects of teacher's Pedagogic Competence on the Social Interactions of Hearing Impaired Students. Using the purposive sampling techniques, a sample size of 80 teachers and four (04) hearing impaired learners was selected for the study in order to gain a better understanding of the impact of teaching methods, tools used and teacher's technical skills on their social interactions. In other to support the arguments, we used the Lev Vygotsky's Social Constructivist Theory of Learning (1978) and Social Model Theory of Disability by Mike (2000). The tools used for data collection was the questionnaire. The sample was collected in the field and classroom, the data collected was registered in the excel software. The Statistical Package for Social Science (SPSS) computer software was used to analyze the data gotten from the field of study, the Spearman rank correlation was used to test hypotheses and the following results were obtained per hypothesis. **Hypothesis one**: In the first hypothesis, we had a correlation coefficient of 0.602, which is positive and strong. Alternatively, the level of significance is p=0.000 which is less than 0.01 which is the standard error margin. Base on this, we conclude that there is a high correlation relationship between teachers training and Social interactions of hearing impaired students. **Hypothesis 2**: In the second hypothesis, we had a correlation coefficient of 0.882 showing a very strong correlation relationship that exist between the two variables. Alternatively, the level of significance is less than 0.882, which is 0,05 alpha. On this premise we reject the null hypothesis, we conclude that there is a significant relationship between the teaching methods and social interactions of hearing impaired students. **Hypothesis 3**: In the third hypothesis, we had a correlation coefficient of 0.674, which is strong. Alternatively, the level of significance is less than 0.01. Base on this we reject the null hypothesis and retain the alternative hypothesis, which states that Assessment methods have an influence on the social interactions of hearing impaired students. **Hypothesis 4**: In the fourth hypothesis, we had a correlation coefficient of 0.487, which is moderate. Alternatively, the level of significance is less than less than 0.01, which is the standard error margin. Base on this, we reject the null hypothesis and retain the alternative hypothesis which states that the learning environment have an influence on the social interactions of hearing impaired students. It was suggested that parents should accept their hearing children knowing hearing impairment is not a barrier to be a developed person in the society. The government is advised to open a school for principal ship to train school administrators in the domain of hearing impairment education. Teachers of learners with hearing impairment should be trained and given instructions on how they can best handle learners with hearing impairment. Lastly the society and peer need to be sensitized through radio, peer social gathering, school clubs and television talks on the hearing impairment conditions of these learners. From the above hypotheses, it was deduced that teacher's pedagogic competence have a direct connection on the social interactions of hearing impaired students in the Adventiste secondary school.

Key words: Pedagogic competence, Social Interactions, Hearing impairment.

RESUME

Cette étude a été menée pour examiner l'impact de la compétence pédagogique de l'enseignant sur les interactions sociales des élèves déficients sensoriels de l'école secondaire adventiste de Yaoundé 1, qui se trouve dans la région du Centre du Cameroun. L'objectif de l'étude était de savoir si les compétences pédagogiques des enseignants affectent les interactions sociales des élèves déficients sensoriels de l'école secondaire adventiste. Avec la question de recherche principale de connaître les effets de la compétence pédagogique de l'enseignant sur les interactions sociales des élèves déficients sensoriels. En utilisant les techniques d'échantillonnage raisonné, un échantillon de 80 enseignants et quatre (04) apprenants malentendants a été sélectionné pour l'étude afin de mieux comprendre l'impact des méthodes d'enseignement, des outils utilisés et des compétences techniques des enseignants sur leurs interactions sociales. Dans d'autres cas, pour étayer les arguments, nous avons utilisé la théorie constructiviste sociale de l'apprentissage de Lev Vygotsky (1978) et la théorie du modèle social du handicap de Mike (2000). L'outil utilisé pour la collecte des données a été le questionnaire. L'échantillon a été collecté sur le terrain et en classe, les données collectées ont été enregistrées dans le logiciel Excel. Le logiciel informatique Statistical Package for Social Science (SPSS) a été utilisé pour analyser les données obtenues du domaine d'étude, la corrélation de rang de Spearman a été utilisée pour tester les hypothèses et les résultats suivants ont été obtenus par hypothèse. **Première hypothèse** : Dans la première hypothèse, nous avions un coefficient de corrélation de 0,602 qui est positif et fort. Alternativement, le niveau de signification est de 0,000, ce qui est inférieur à 0,01, qui est la marge d'erreur standard. Sur cette base, nous concluons qu'il existe une relation de corrélation élevée entre la formation des enseignants sur les interactions sociales des élèves déficients sensoriels. **Hypothèse deux** : Dans la deuxième hypothèse, nous avions un coefficient de corrélation de 0,882 montrant une forte relation de corrélation qui existe entre les deux variables. Sur cette prémisse nous rejetons l'hypothèse nulle, nous concluons qu'il existe une relation significative entre les méthodes d'enseignement sur les interactions sociales des élèves déficients sensoriels. **Hypothèse trois** : Dans la troisième hypothèse, nous avions un coefficient de corrélation de 0,674 qui est positif et fort. Alternativement, le niveau de signification est inférieur à 0,01. Sur cette base, nous rejetons l'hypothèse nulle et retenons l'hypothèse alternative qui stipule que les méthodes d'évaluation ont une influence sur les interactions sociales des élèves déficients sensoriels. **Hypothèse quatre** : Dans la quatrième hypothèse, nous avions un coefficient de corrélation de 0,487 qui est positif et fort. Alternativement, le niveau de signification est inférieur à inférieur à 0,01 qui est la marge d'erreur standard. Sur cette base, nous rejetons l'hypothèse nulle et retenons l'hypothèse alternative selon laquelle l'environnement d'apprentissage a une influence sur les interactions sociales des élèves déficients sensoriels. Il a été suggéré que les parents acceptent leurs enfants handicapés en sachant que le handicap n'est pas un obstacle pour être une personne développée dans la société. Il est conseillé au gouvernement d'ouvrir une école pour les principaux navires afin de former les administrateurs scolaires dans le domaine de l'éducation inclusive. Les enseignants des apprenants handicapés doivent être formés et recevoir des instructions sur la meilleure façon de gérer les apprenants handicapés. Enfin, la société et les pairs doivent être sensibilisé par la radio, les rassemblements sociaux entre pairs, les clubs scolaires et les conférences télévisées sur les conditions de handicap de ces apprenants. À partir des objectifs ci-dessus, il a été déduit que la compétence pédagogique de l'enseignant a un lien direct avec les interactions sociales des élèves déficients sensoriels de l'école secondaire adventiste.

Mots clés : Compétence Pédagogique, Interaction Social, Déficients Sensoriels.

ACRONYMS AND SIGLES

HI : Hearing Impaired

AT : Assistive Technology

ESEDA : Special School for Children with Hearing Impairments Yaoundé

UNCRC : United Nations Convention on the Rights of the Child

CBHS : Cameroon Baptist Convention Health Services

ICF : International Classification of Functioning Hearing impairment and Health

ESPR : Education Sector Performance Report

CRPD : Convention on the Rights of Persons with Hearing impairment

IDEA : Individuals with Hearing impairment Education Act.

IE : Inclusive Education.

NGO : Non - Governmental Organization

MoE : Ministry of Education

ODEP : Office of Hearing impairment Employment Policy

SENs : Special Educational Needs

SI : Hearing impairment

PWDs : Persons with Hearing impairment

VI : Visual Impairment

UPIAS : Union of the physically impaired Against Segregation

UNESCO : United Nations Economic Scientific and Cultural Organization.

UN : United Nations

WHO : World Health Organization

ZPD : Zone of Proximal Development

OECD : Organisation for Economic Co-operation and Development

IDEA : Individuals with Hearing impairment Act

SPSS : Statistical Package for Social Science

INTRODUCTION

The issue of the human's place in the social reality of his existence is an eternal question of Philosophy, Psychology and Educational Sciences, and efforts have been made to answer it since the beginning of humankind. The existence of every human in society forms a dual interaction, since the human shapes society and society shapes the human.

When a person's individuality differs significantly from that of the majority at the social level, this often causes tension between the person and society. This is often the experience of people with hearing impairment or those classed as geniuses. In these cases, the issue of the harmonization of relationships naturally becomes relevant (Kelley, 2008).

What are the solutions? Looking retrospectively at the history of societal development, we find various options. These include rejection, meaning preventing particularly different people from living (Albrecht, Seelman & Bury, 2001); isolating them from society (Montserrat & Garland, 1996); recognizing every human's dignity, which was the goal of Philippe Pinel (Pinel, 1809); and working towards the education of every person, as was done by the first philanthropist educators, including Jean Marc Gaspard Itard (Lieberman, 1982), Charles-Michel de l'Épée (Aicardi, 2009), Valentin Haüy (Oliphant, 2008) and Samuel Gridley Howe (Holbrook & Koenig, 2000).

The first successful means of teaching and communication used by people with mental disorders, the blind, the deaf and the deaf-blind surprised society as extraordinary human inventions. Nowadays, the recognition of education as a universal good is no longer questioned. Democratic states, striving for fully-fledged societal development, recognize every person's right to learn regardless of their physical or mental development or social situation.

International agreements, such as the Salamanca Statement (1994) and the United Nations Declaration against Discrimination in Education (1960), which specify international and national commitments, open up possibilities for all students to learn in the most favorable conditions. However, great differences exist in the realization of this right in schools across the world.

For example, while African schools endeavor to solve issues such as providing teachers, the means of teaching and textbooks (Booth & Ainscow, 1998), European education policy-makers

look into the perception, scope and ways of implementing inclusive education (Donnelly, 2011). Authors support the conclusion of the Organization for Economic Co-operation and Development (OECD) that "There is a human rights imperative for people to be able to develop their capacities and participate fully in society", and that "The long-term social and financial costs of educational failure are high", as "Those without the skills to participate socially and economically generate higher costs for health, income support, child welfare, and security" (Field, Kuczera & Pont, 2007, p. 11). Through the research presented, some authors consider how to prevent failures in learning for any student and the factors that enhance the efficiency of inclusive education.

A number of factors, including political decisions, the social and cultural environment and teacher competences determines the effectiveness of the education system in any country. Some countries have different historical and cultural backgrounds; however, they all follow European agreements and aim to improve their education systems as grounds for the development of a democratic society. In order to reveal both the socio-psychological and educational factors that determines the possibility of successful participation in education for every pupil.

The participation of the teacher is a significant factor in the students' interpersonal interaction; thus, it looks into the manifestation of such participation in student-teacher relationships by analyzing ways of involving students in decision-making and how they engage with it; the ways in which the teacher supports and strengthens the students' individuality; and the ways of creating conditions to accept the different needs of students in the community.

Also considered are the interpersonal communication aspects most frequently raised by students regarding their relationships with the teacher, and how the teacher feels during the interaction. An inclusive education partnership also shapes the close professional links within the community of other teachers and specialists participating in the educational process. The analysis covers the ways teachers share good practices, as well as difficulties, how the ethos is created in the teachers' community and the way in which it contributes to the development of inclusivity.

The research results show the nature of, and the clear effect of, the interaction between teachers and students' parents in shaping an inclusive community. The results also reveal the factors of pedagogical interaction that encourage cooperation between parents and teachers and the parents' engagement in the school.

Moreover, the research looks into the inclusive education organization process through a thorough analysis of teachers' diaries, where they reflect on their own actions and reveal how they organize certain activities, the difficulties they encounter, the ways they solve various problems in specific circumstances and emphasize major daily and longer-term successes. Factors stimulating inclusive education are analyzed in the context of education planning and modeling. Such an environment brings out particularly well the highly sensitive and complex need to provide rational assistance to the student.

The educational experiences on which teachers reflect allow us to identify when and what kind of assistance helps eliminate the particular obstacle from the student's learning path and helps him or her engage in joint educational activity. The analysis of teacher reflection diaries also reveals the impact of the educational environment on the efficiency of inclusive education.

The teachers reflect on various unexpected atypical situations, and these broaden our knowledge of inclusive education processes and allow us to improve the models designed to improve the situation. The analysis of the research, through comparison with the fundamentals of inclusive education, socio-cultural experience and specific educational models, reveals the essential education factors that enable the development of the environment of successful education for every student.

We believe that the results of the research will contribute to the pool of scientific works in Educational Sciences since the results of the research reveal new aspects of inclusive pedagogical interaction, such as empowering support, multifaceted and joint active involvement of all education participants in the organization of education process, and different directions in which the teacher's transforming approach can be realized.

The work will enrich the pool of knowledge resources for Master's and Doctoral studies, induce new scientific research in the field of inclusive education, as well as help teachers to ensure better learning for every student, which is hugely important given that the success of every student at school is a precondition for the formation of a productive society.

CHAPTER ONE
BACKGROUND AND PROBLEM

1. INTRODUCTION

The chapter covered the following sections: Background to the study, contextual background, theoretical background, conceptual background, justification, research problem, research questions, research objectives, research hypothesis, significance of the study, definition of terms, interest of the study, and delimitation of the study.

1.1. BACKGROUND OF THE STUDY

1.1.1. Background on teachers' pedagogic competence

Superiors in selection for government job (Hoge, Tondora and Marrelli 2005) can trace the concept of teacher's pedagogic competence as far as 3000 years ago when the Chinese employed written civil service exams replacing recommendations. In the medieval age, apprenticeship was introduced. Apprentices were expected to learn skills by working with a master and were awarded credentials after they reached the standards of working set by the trade (Horton 2000).

With the industrial revolution, major socio-economic changes took place in sectors such as agriculture, production, transportation and teaching. The study of work and jobs in these sectors and skills needed to do these jobs emerged (Horton 2000). Near the turn of the 20th century, social efficiency became a dominant social idea in the United State. Frederick Winslow Taylor who was called the father of scientific management became a significant figure with the development thinking and practice. From this time competence continued to develop up to present.

Formal education is recognize in most countries as an important mechanism of socialization cultural identity, social control labor force production, social mobility and stimulation of social change (Thomas 1938, Fagerlind and Saha 1989). In the white western paradigm of education, formal education is institutional. State sanctioned agencies such as the school, college and university are viewed both as the normative exemplar of education and the only bona fide value structures within which meaningful teaching learning and education is perceived to occur. There is a prevailing often-uncontested belief within this tradition, that mainstream schools are

universally functional and singular institution, which exists to fulfill the needs of individuals and social collectivities.

Over the years of so western civilization, pedagogy has been developed as a correlate to education, understood as the way one establishes the educational process. Education has effectively emerged as an irreducible reality in human societies. There are no distinct boundaries between its origins and those of humankind itself.

Nowadays, there is a serious process of change in teaching and learning which extends from traditional conceptions to constructivism. It is known that this change and transformation in education deeply affects not only in-class processes but also teachers' conceptions. However, many teachers tend to resist changing their teaching practices and intentionally do not accept alternative strategies, methods and techniques. Teacher's perceptions of their own pedagogical competence are considered highly effective in their teaching and learning conceptions.

The teaching-learning conceptions represent the ways and methods used by teachers to organize their teaching-learning environments (Chan and Elliot, 2004). According to Chan (2003), the conceptions of teaching-learning are their beliefs about the educational activities they put into practice in the classroom. The teaching-learning conceptions in educational sciences have changed in different periods of history. Schunk (2008) mentions two different opposing teaching-learning conceptions in this process, the traditional teaching-learning conceptions that locate the teacher at the center and the constructivist teaching-learning conceptions that place the student at the center.

According to the traditional teaching-learning conceptions, the teacher is the only competent authority in the transfer of knowledge and the student is considered as a passive recipient of the information (Brooks and Brooks, 1999). On the other hand, according to the constructivist teaching-learning conception, the teacher's task is not to convey knowledge but to guide the student. In a traditional teaching-learning environment, as teacher-centered activities are organized, students listen and note the teachers. The teacher generally uses the traditional method of expression and the question-answer technique (Gunes, 2014). On the other hand, student-centered activities are organized in a constructivist teaching-learning environment. In such an environment involving rich learning activities, the teacher is not a single and constant source of information. The teacher encourages students to search for information and access alternative sources of information. He or she encourages them when they need, and motivates

them for teamwork, and appreciates their achievements and establishes two-way communication with them (Plourde and Alawiye, 2003).

Constructivism also recommends that students develop their knowledge based on their prior knowledge, so the students must actively participate in their own learning processes. In constructivist classes, students interact with each other as well as the contents that enable them to be active participants and responsible for learning processes (Şahin and Yilmaz, 2016). In constructivist learning environments, teachers facilitate the learning process by giving students a variety of clues, as well as create learning environments in which students interact with their peers and teachers, and offer them the opportunity to use previous knowledge to create new knowledge. (Jonassen, 1999).

Organization for Economic Co-operation and Development (OECD) focuses on the need to provide high-quality education for all, where teachers and their proven competencies play a vital role (OECD, 2005). This necessity is also supported by the data linking students' performance to teacher qualifications. It has been proven by a number of studies that students' performance levels are higher when teachers' competence is proven (Gold Haber and Brewer, 2000; Darling-Hammond, Berry and Thoreson, 2001; Gold Haber and Anthony 2007; Vandervoort, Amrein-Beardsley and Berliner, 2004).

One point that should not be ignored here is the teachers' perceptions of their pedagogical competencies as well as their pedagogical competencies. Since teachers' beliefs play an important role in teaching and these beliefs are difficult to change, it is important to know what teachers' beliefs are. According to Richardson (1996), there is a direct link between teachers' beliefs and teaching practices.

It has been revealed that teachers with low pedagogical competency perception can avoid activities they think it will force them and their students, and teachers with a high pedagogical competency perception are more likely to develop compelling activities and to help students who have difficulty in the teaching-learning process. Similarly, teachers with traditional teaching-learning conceptions avoid different activities; teachers with constructivist teaching-learning conceptions tend to facilitate different and high-level activities and facilitate the teaching-learning processes (Bas and Senturk, 2017).

Studies of how teachers work, how they apply their craft knowledge suggests that teaching is not a technical or rule-following activity but one which involves making judgements and taking

decisions, based on analysis of what Schon calls 'reflection-in-action'. Teachers do not follow a single method but they draw on their knowledge and engage in what Huberman (1993) and Hargreaves (1997) call 'tinkering'. In other words, they often experiment and try out ideas possibly informed by knowledge that they have about the range of theories and ideas that are available and guided by their own beliefs and principles.

Dyson and Ainscow (2003) have shown that local context also influences the way teaching strategies are interpreted, adapted and implemented. Their experience is that evidence from research can be useful in stimulating teachers to reflect upon existing practices and to experiment with new approaches. Florian and Rouse (2001) found school structures to have an important influence. Their study investigated teacher knowledge and use of the strategies thought to promote inclusive practice.

They found that contrary to the suggestions that teachers lack knowledge about inclusive practices, they were actually quite knowledgeable, but that knowing and doing were very different things. What teachers were able to do was constrained by such things as subject department and school policy (e.g. setting), and the availability of resources (e.g. ICT, teaching assistants, just to name these few).

Attempts to trial new approaches must, therefore, pay attention to contextual factors, including the way practice develops within social contexts. What we have learned from this and other research undertaken within our teams is that research to practice issues is nested within a wider set of considerations. The limited research on implementation suggests that such things as effect the adoption of innovative or effective practice: time to work on the innovation; philosophical acceptance and perception of the importance of the intervention practice, and teachers' perception of their technical competence and ability to influence student learning.

A pervasive theme in the implementation is the mismatch in perspective between researchers and practitioners. New research on innovation (that is; how teachers adopt technology) suggests that simply because a program or approach has been validated does not mean it will be used as intended in practice (Woodward, Gallagher and Reith, 2001). How teachers use empirically validated strategies is not well understood but some researchers, now recognize the need to incorporate ways of examining the complex and non-linear patterns of teachers' work in their research designs.

1.1.2. Background on Inclusive education

Inclusive education has increasingly become a focus of debate in discussions about the development of educational policy and practice around the world (Ainscow, Howes, Farrell, & Frankham, 2003; Thomas, 2012). The education of children and young people with special educational needs (SEN) and hearing impairment is now an established key policy objective in many countries (Lindsay, 2007). The US paved the way with the introduction of the Education for All Handicapped Children Act of 1975, which was subsequently amended as the Individuals with Hearing impairment Act (IDEA) in 1990 and updated again in 1997, to promote 'whole-school' approaches to inclusion (Evans & Lunt, 2002; Winter & O'Raw, 2010).

Brooks. (1991), in his write up opines that throughout history, individuals with hearing impairment have struggled to live full and productive lives as independently as possible in a society laden with stigma, discrimination, and attitudinal and environmental barriers. Most legislation, policies and practices have regarded persons with hearing impairment as unfit for society, as sick, as functionally limited, and as unable to work. Asch & Fine, (1988) , in recent years, the notion of hearing impairment as an individual problem has been contested as being inadequate and fallacious conceptualization of the lived experiences of people with hearing impairment.

The growth of self-organization of people with hearing impairment since the 1970s has led to a re-definition of hearing impairment as a social construct: social, cultural, political, and environmental barriers have been emphasized as more disabling than physical or cognitive impairment.

According to Euphrasia and Patrick. (2008), in many civilization babies born with hearing impairment were abandoned and left to die either from exposure or to be eaten by other wild animals and considered as having witchcraft, some were sold to galley slavery or some into prostitution, others as baggers for amusement or were simply hidden kept by their respective families. Euphrasia and Patrick. (2008), by the middle ages, religious influences typically resulted in more humanitarian care and individuals with hearing impairment were viewed as "children of God" and received protection from the church and charitable organization. Civilized societies (particularly in Europe) began to operate in the belief that it was an obligation for the societies to care for the "less fortunate" including the blind. Alm houses (something akin to homeless shelters of today) began to be created and established to care for the poor, disadvantage, including the blind.

Bridget. (2012), opines that historically, hearing impairment in Cameroon has been treated as a welfare or charity issue for a long time. In this content, a vast majority of children with visual impairments never attend school and a large percentage of children who do attend mainstream schools often dropout due to inaccessible school infrastructure, teachers' attitude and peer attitude towards learners with hearing impairment.

Persons with hearing impairment, the world's largest minority, have generally poorer health, lower education achievements, fewer economic opportunities and higher rate of poverty than people without hearing impairment; this is largely due to the Lack of genius available to them (like information and communications technology, ICT, Justice or transportation) and the many obstacles that they face in their everyday lives. These obstacles can take a variety of forms, including those relating to the physical environment, or those resulting from legislation or policy or from societal altitudes and discrimination.

All children have a right to education regardless of their handicap, ethnic background or social status as stipulated by the United Nations Convention on the Rights of the child, (UNCRC, 1989). Although this is fundamental to all children, a report by the United Nations Educational Scientific and Cultural Organization (UNESCO, 1997) notes that, in majority of the countries, this reality is bleak in terms of access and quality education for children with special needs. Children with special needs include those that experience conditions that hinder normal learning and development of the individuals.

Mohammed. (2011), says that hearing impairment has been treated as a welfare or charity issue for a long time. Nevertheless, over the past few decades, hearing impairment has become recognized as a wider societal concern. Policymakers and educators are currently looking to implement systematic intervention to address the educational needs of children with hearing impairment from the "right-based" perspectives. However, negative attitudes and practices reinforced by poverty create barriers that result in exclusions of people with hearing impairment from participating in mainstream experiences. Students with hearing impairment were excluded from school because they were said to have a "depressing and nauseating" effect on the other students. Yesseldyke and Algozzine. (1982),

All EU countries now have legislation in place designed to promote or require inclusion. Thus, most national inclusive education systems and school organizations function in line with the Salamanca Statement and Framework for Action on Special Needs Education, which states that,

"schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions.

This should include disabled and gifted children, street and working children, children from remote or nomadic populations, and children from disadvantaged or marginalized areas or groups" (UNESCO, 1994, par 3). However, the current universal trends reveal that the match towards full inclusion for students with SEN in mainstream schools is still an illusion (Kauffman & Hallahan, 1995), given the fact that support services hardly meet the needs of all learners despite the policies and practices.

All children have the right to be educated together regardless of any special need or hearing impairment. This requirement led to several controversial evolutions. After three decades of a series of conflicts and critiques in the process of developing theories of special education, three dominant theoretical models namely the psycho-medical, sociological and organizational models have emerged. The psycho-medical approach (Burt, 1937; Cole, 1989; Schonell, 1948) emphasizes the recognition of the child's special needs arising from impairment, which must then be met through special support services.

The sociological model (Barton, 1988; Tomlinson, 1982) acknowledges the technocratic approach to educational provision for diverse categories of learners with SEN. The organizational model (Ainscow, 1991; Dyson, Millward, Skidmore, & Clark,1997) advocates educational provision for every child, the disabled and non-disabled in the same ordinary school setting or classroom and a child's educational failure is the responsibility of both the child and the school.

While the first two models require the child to adapt to the school system, the last one advocates the school adaptation to the child's needs. However, despite controversies in terms of their weaknesses and strengths, practical experiences reveal that a combination of two or all of them is often necessary for adequate support provision (Farrell, 2003), especially in a whole school approach to inclusion.

In addition, conflicts between the values of academic progress and achievement on the one hand and those of the inclusive education process on the other (Avramidis, Bayliss, & Burden, 2002; Avramidis, Bayliss, & Burden, 2000; Benjamin, 2002) constitute some of the major controversies in practical provisions to students with SEN in ordinary or mainstream schools. There is considerable debate about whether it is achievable, how it could be achieved. Debate

also exists regarding the extent to which this involves the deconstruction of the field of special educational needs and construction of a regular system that will meet the needs of all students (Norwich, 2002).

Special Needs Education in Cameroon actually started in informal settings especially in the family circle where parents could teach their local dialects, use local currency in buying and selling as it was one of the main occupations in the early days (Shey, 2003). Before the creation of the Ministry of Social Affairs in 1975, formal education for children with hearing impairment was mostly done in special institutions, which were mostly privately owned, and with fewer children attending regular schools. The first centres were created in 1972 called Ecole Specialisee pour les enfants Deficents Auditif (ESEDA) , which translates as, Special school for children with hearing impairments; and the L'externat Medico Pedagoque-LA COLOMBE, which is the Special school for the mentally handicapped children. These centres were run and managed by religious groups and parents of children with hearing impairment.

The responsibility for special education is shared between the Ministry of Education and the Ministry of Social Affairs. There is no administrative structure that deals specifically with special education. The legislation allows for various grants concerned with the support for schools, special pedagogical assistance, and training of specialized staff and the development of curriculum materials (Tukov, 2008). Since then, there has been a slight positive change towards the education of children with hearing impairment in Cameroon. "As an accord to this, the Cameroon National Assembly deliberated and adopted Law No 83/013 of July 21, 1983 relative to the protection of persons with hearing impairment" (Tukov, 2008, p.19).

This law was supported by Decree No 90/1516 of November 26, 1990 text of application to support the modalities and protection of persons with hearing impairment (Biya, 1990). It can be said that the 1983 Law on hearing impairment laid the foundation stone for a stronger government policy towards the education of children and young adults with hearing impairment in Cameroon. With the help of the special schools and some regular schools having children with hearing impairment, there has been a great development in enhancing positive attitudes, and training hearing impairment adults to become self-reliant for the socio-economic integration in to the community. There is the lack of government encouragement towards the establishment of training centres for special education teachers, which can lead to an improvement in the level of education of children with hearing impairment (Tukov, 2008).

1.2. CONTEXTUAL BACKGROUND

The topic teacher's pedagogic competence on the social interactions of hearing impairment students will be examined in the Adventiste secondary school (Yaoundé 1). We are going to look at how teachers' pedagogic competence plays a part in the social interactions of hearing impaired students, which is an aspect of pedagogy.

A question of pedagogy Alexander (2003) argues that pedagogy "is what one needs to know, and the skills one needs to command, in order to make and justify the many different kinds of decisions of which teaching is constituted. At its most basic and fundamental level this involves

- children: their characteristics, development and upbringing
- learning: how it can best be motivated, achieved, identified, assessed and built upon
- teaching: its planning, execution and evaluation, and
- curriculum: the various ways of knowing, understanding, doing, creating, investigating and making sense which it is desirable for children to encounter, and how these are most appropriately translated and structured for teaching" (p. 4).

Consideration of the evidence of whether there is or should be a SEN pedagogy was undertaken by the team during the synthesis of area strands and during the team meetings. There is a great deal of literature that might be construed as special education 34 knowledge but that the teaching approaches and strategies themselves were not sufficiently differentiated from those which are used to teach all children to justify the term SEN pedagogy.

Our analysis found that sound practices in teaching and learning in mainstream and special education literatures were often informed by the same basic research (e.g. Heward, 2003). Some of the research that underpins the National Literacy Strategy for example was based on studies that sought to understand the differences between readers with and without special educational needs.

Similarly, there are strategies that have proved to be effective for teaching academic skills to students with learning difficulties even though they were developed for other purposes. Cooperative learning is a well-known example of a mainstream practice that has had positive effects on attainment for students with special educational needs. A question of special

educational need that there are differences among children, their characteristics and upbringing may not be problematic. It is when the magnitude of these differences exceeds what schools can accommodate that children are often considered to have special educational needs.

As Florian and Hegarty (2004) note: the term SEN covers an array of problems from those arising from particular impairments to those related to learning and behavioral difficulties experienced by some learners some of the time. Many people are disabled by an impairment but they may or may not be handicapped by the condition. However, some conditions and impairments are known to create barriers to learning unless accommodations are made.

Our view is that questions about separate special education pedagogy are unhelpful given the current policy context, and that the more important agenda is about how to develop a pedagogy that is inclusive of all learners. This is supported by the evidence base in relation to each of the four strands in our preliminary report where the literature on teaching approaches and strategies for meeting special educational needs was organized according to the areas of need as specified in the 2001 SEN Code of Practice.

There was difficulty in categorizing many of the reviews located, as there was a considerable overlap between area of need, teaching approach, and teaching strategy. When we searched by teaching strategy many relevant reviews that covered, all areas of need were found. Our position is that the areas of need are important elements of human development for all learners. Moreover, these elements interact in ways that produce individual differences, which make it difficult to prescribe a course of action to remedy a particular problem.

Often children with complex learning needs require support to a degree, which is beyond that typically required by their peer group. Our view does not diminish the importance of special education knowledge but highlights it as an essential component of pedagogy. Davis and Hopwood (2002) have shown how the provision of additional support can lead to inclusive practice. This is most likely to occur when specialist and mainstream staff work in partnership sharing their knowledge and diversifying their roles. Ainscow (1997) identified effective leadership, involvement of staff, a commitment to collaborative planning, effective co-ordination strategies, attention to the possible benefits of 35 enquiry and reflection and a policy for staff development as conditions for inclusive education. Florian (1998) has suggested there are a set of necessary but not sufficient conditions, which must be met for inclusive education to become a meaningful model for meeting special educational needs. These are

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- An opportunity for pupil participation in decision-making processes
- A positive attitude about the learning abilities of all students
- Teacher knowledge about learning difficulties
- Skilled use of specific teaching methods
- Parent and teacher support (p.22) both sets of conditions represent important constituent elements of pedagogy.

They underscore the social complexity of teaching and the change in thinking and practice that is required in order to make use of available teaching strategies and approaches. Harkin and Davis (1996) point to the difficulties that many teachers' face when attempting to change long established patterns of classroom behavior, and to the benefits of collaborating with colleagues who act as critical friends as a means of encouraging reflection on practice and experimentation.

1.3.THEORICAL BACKGROUND

According to Blatchford, & Webster (2015) students with differences and non-differences to work together cause interaction among children which later boosts their academic performance, communication, and social skills. Nonetheless, there is a chance that when they sit in the same group, they hardly work together as a whole team, and therefore, a little interaction may happen among students (Baines, Blatchford, & Webster, 2015).

And in having a great sense of school belonging, on the other hand, connected with being more successful in class, successful participation in-class and out-of-class activities, high school attendance rate and especially, having life satisfaction (Cemalcilar, 2010; Krischler et al., 2019).

The zone Proximal of Development (ZPD) consists of two levels of development. The first level of development is identified as the real level, or the level a child can solve problems independently. The other level of development is the potential development level, which requires either Zone the assistance interactions or support from adults or higher functioning peers (Bruster, 2014). The second level is the basis for inclusion. Vygotsky's theory in relation to special education is that students learn through the introduction of concepts that are a little above their ZPD and are provided scaffolding and modelling by teachers and more knowledgeable peers within the social interaction and cultural context they share with others in the classroom (Daniels, 2012; Daniels, Cole, & Wertsch, 2007).

Vygotsky found that when children see an assignment as possible and have assistance or scaffolding to accomplish the assignment, they are capable of higher-level skills than those they can complete independently (Daniels et al., 2007; Schmitz, 2012). For students with hearing impairment this access to more knowledgeable peers and models as well as scaffolding for higher-level tasks is found in the mainstreamed classroom.

Vygotsky (1962) examined how our social environments influence the learning process. He suggested that learning takes place through the interactions students have with their peers, teachers, and other experts. Consequently, teachers can create a learning environment that maximizes the learner's ability to interact with each other through discussion, collaboration, and feedback. Moreover, Vygotsky (1962) argues that culture is the secondary determining factor for knowledge construction.

We learn through this cultural lens by interacting with others and following the rules, skills, and abilities shaped by our culture. The teacher, or local topic expert, plays the important role of facilitator, creating the environment where directed and guided interactions can occur. Many other educational theorists adopted Vygotsky's social process ideas and proposed strategies that foster deeper knowledge construction, facilitate Socratic student discussions, and build active learning communities through small group based instruction.

This provides an additional framework for this study. Bandura's Social Learning Theory states that people learn from one another by imitation, observation, and modelling (Bandura, 1977). Recent research has found that peer interaction and peer instruction increases the performance and learning of all students (Allison, 2012). According to Bandura (1986), effective modelling has four necessary conditions: attention, retention, reproduction, and Social motivation Theory. Attention requires the student to attend to the actions of the model.

This process is learning influenced by the characteristics of both the model and the observer (Bandura, 1986; Bandura, 2012). Retention recognizes that the observer not only watches the behaviour, but also remembers it for a later time; this requires rehearsal or practice for retention. Reproduction requires not only physical, but also intellectual ability to reproduce the action (Bruster, 2014).

This theory is based on the idea that we learn from our interactions with others in a social context. Separately, by observing the behaviours of others, people develop similar behaviours. After observing the behaviour of others, people assimilate and imitate that behaviour, especially

if their observational experiences are positive ones or include rewards related to the observed behaviour. According to Bandura, imitation involves the actual reproduction of observed motor activities. (Bandura 1977).

The principles of social learning are assumed to operate in the same way throughout life. Observational learning may take place at any age. Insofar as exposure to new influential, Powerful models that control resources may occur at life stage, new learning through the modelling process is always possible. (Newman B.M. & P.R, 2007). People learn from one another, via Observation; Imitation; and Modeling.

The people who are being observed are called models and the process of learning is called modelling. Bandura stated second and third stages of social learning, imitation and behaviour modelling, will occur if a person observes positive, desired outcomes in the first stage. If, for example, an instructor attends and observes a course in world and is entertained, informed, and approves of the way students act, they are more likely to want to teach a course in world themselves. They can then use the behaviour they experienced to imitate and model other instructors' teaching styles in world (Bandura, 1986).

1.3.1. Vygotsky's theory on "Mind in Society" Vygotsky 1978

Vygotsky's Zone of Proximal Development (ZPD) consists of two levels of development. The first level of development is identified as the real level, or the level a child can solve problems independently. Either the other level of development is the potential development level, which requires the assistance interactions or support from adults or higher functioning peers (Bruster, 2014). The second level is the basis for inclusion. Vygotsky's theory in relation to special education is that students learn through the introduction of concepts that are a little above their ZPD and are provided scaffolding and modelling by teachers and more knowledgeable peers within the social interaction and cultural context they share with others in the classroom (Daniels, 2012; Daniels, Cole, & Wertsch, 2007). Vygotsky found that when children see an assignment as possible and have assistance or scaffolding to accomplish the assignment, they are capable of higher-level skills than those they can complete independently (Daniels et al., 2007; Schmitz, 2012). For students with hearing impairment this access to more knowledgeable peers and models as well as scaffolding for higher-level tasks is found in the mainstreamed classroom.

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The teacher, or local topic expert, plays the important role of facilitator, creating the environment where directed and guided interactions can occur. Many other educational theorists adopted Vygotsky's social process ideas and proposed strategies that foster deeper knowledge construction, facilitate Socratic student discussions, and build active learning communities through small group based instruction.

1.3.2. Social model theory of disability by mike (2000)

The social model theory of disability by Mike, was first put forth in the United Kingdom in the year 1976 statement by the Union of the Physically Impaired against Segregation (UPIAS, 1976). This model encourages the society to view the issue of including persons with hearing impairment from a human right and equality perspective rather than a focus on the persons with hearing impairment from participating in any situation as what handicaps them. PWDs are often made to feel that it is their own fault that they are different. Impairments do not make them less human beings. This is emphasized well by the social model. The PWDs movement believes that cure to the problem of hearing impairment lies in the restructuring of the society, and not focusing on the individual's impairments.

In an inclusive mainstream setting, it is the school's responsibility to re-adjust in order to meet the needs of learners with hearing impairment. In the social model, it is well emphasized that children with hearing impairment could have trouble in the education system. This could be due to extensive, demanding, rigid and inflexible curriculum, inaccessib, lack of adequate resources and materials, negative attitude among others. The inclusive education approach however suggests that those difficulties should not be explained simply in terms of children's impairments. It discourages the view that the learner faces such problems due to his or her impairments.

Under those circumstances, the option is not to establish a separate special school, which could further separate these children from their peers and families, neither is it cost effective. Instead, the school should not be seen as creating barriers to learning for the learners with special needs by failing to create an enabling and supportive environment for them. A more appropriate response is to understand the barriers to learning and work out systematically to alleviate them. This model first sees the strength of the child, rather than the hearing impairment. It advocates for the inclusion of all children, however "severe" the hearing impairment is in the mainstream education system

1.4.CONCEPTUAL BACKGROUND

Teachers' Pedagogic competence is the ability of teachers in managing learners based on approaches by taking into account the understanding of learners, planning and implementation of learning, evaluation of learning outcomes and development of leaner's potential, thus necessary preparations, plans and arrangements for an effective teaching and learning process, these preparations include teachers training, lesson presentation,

Accessibility of didactic materials, teaching method, Skills in lesson planning which is appropriate for teaching and learning process. Teacher Pedagogic competence is the dependent variable entirely dependent on four variables. This include; Qualified teachers, Adapted teaching methods, Suitable assessment methods and appropriate learning environment. Teaching is the process of heeding to people's needs, experiences and feelings and interfering so that they learn specific things.

The major function of education is to make learning beneficial and meaningful. This process would be completed as an outcome of teaching. So, the processes are nearly related to each other. Teaching is a method in which one individual teaches or advises another person. The role of the teaching learning process is very significant in the modeling of adolescents to serve better human beings in the nation as they are going to direct society once they are mature. This process exemplifies the channel of contact through which the individual strives to develop the methods, skills, proficiency, attitude, integrity, and appreciation that are vital for enduring in the information age.

Effective implementation of inclusive education for learners with hearing impairment is possible through provision of teacher's pedagogic competence. The reverse is also true that failure to provide for the same will lead to poor implementation and the quality of inclusive

education in secondary schools where students with have enrolled. For effective implementation of inclusive education, societal readiness is crucial.

Teachers, students and administrators must have a positive attitude towards inclusive education. Teachers should be trained and should be able to use the right teaching methods to teach these students. Adequate assessment methods must be implemented. The institution's environment must be conducive to learning with the necessary infrastructure such as classrooms and pavements. The reverse of all the variables and or lack of one of the variables will lead to poor implementation of inclusive education for students with hearing impairment (Porter & Richter, 1991).

1.5. JUSTIFICATION OF THE STUDY

As justification of this work teacher's pedagogic competence as a determinant of social interactions on hearing impaired students, it is but clear that the effective implementation of inclusive education is a tough challenge to Cameroon. There is the lack of trained teachers in the inclusive system, the lack of special teaching and learning devices for the students, lack of a good assessments methods and learning environment. More to that, most of the special schools in Cameroon are owned by private individuals and Non-Governmental Organizations which are costly making it difficult for some parents to send their kids there.

The researcher is therefore interested in raising the awareness of the fact that, when the practice of teacher's pedagogy competence is not effective, it will rather stand as a factor of poor social interactions to hearing impaired students. To evaluate the state and effectiveness of educating exceptional students in various settings, attention had mostly been focused on teachers' attitudes and teacher experience, but very little research has been conducted to evaluate the impact of teacher's pedagogic competence on the social interaction of hearing impaired students. It is important to investigate on the teacher's pedagogic competence as a determinant to the effective practice of social interactions of hearing impaired students and what impact it produces on the students if actually provided.

1.6. RESEARCH PROBLEM

According to the World Health Organization (WHO), over 5% of the world's population suffers from disabling hearing loss. Five percent may seem like a small number, but totals over 360 Million people across the globe.

The WHO estimates in its 2021 World Report on hearing that in the WHO region of Africa 136 million people have some degree of hearing loss and that 39.9 million or 3.6 % have a moderate or higher grade of hearing loss.

In Cameroon, sensory neural HI is the most frequent pathological type, and is accounted for 61.7 % to 94.4 % of all HI cases, while mixed and conductive HI are found in 5.6% to 20% and 0% to 18.3% of cases, respectively. HI tends to be more severe in school settings, where profound HI is observed in only 9% of cases, the majority 76% being moderate HI 41-60 db. Bilateral HI represent 36% to 100% of cases and in the case-control study performed in a referral hospital of Yaoundé, HI was left-sided and right-sided in 43% and 21%participants, respectively.

Therefore, there is an urgent need to identity all key issues concerning teacher's pedagogic competence on the social interactions of hearing impaired students in general setting. Several studies indicated that hard of hearing students have trouble in interacting with general education teachers and hearing students (Levy-Schiff and Hoffman, 1985; Stinson and Liu, 1999).

The purpose of the present study is to identify the barriers that concerns teacher's pedagogic competence on the social interactions of students with hearing impaired students in an inclusive education setting, as well as to identify pedagogic strategies that facilitate their interaction with their hearing peers and teachers. The number of hearing Impaired students who are educated in general education classrooms has significantly decreased (Eriks-Brophy and Whittingham, 2013).

Furthermore, the present study identified appropriate accommodations that assist hard of hearing students to interact effectively in the general education classroom.

Inclusive education is nationally established in our educational system, and ratified in some laws like 1960 United Nations Convention against Discrimination in Education and the 1975 United Nations Declaration on the Rights of Disabled People. The concept of pedagogy entails that school environments, teachers training, teaching and assessment methods and curriculum is adapted according to the learning needs of the hearing impaired students.

The phenomenon is still contested till date as the numbers of students with hearing impaired participating in secondary education are minimal, little or no follow up is carried out, these Students face a lot of interaction problems, difficulties and challenges. Their presence in an inclusive educational classroom is almost not recognised and their needs are either unknown or

ignored. The unfavourable conditions are causes of their poor performances. In addition, teaching staff, students and school management committees stigmatise students with hearing impairment due to lack of understanding of their needs and potentials.

This has increased the level of vulnerability, dependence and frustration of these students. Hearing impaired students' face a huge societal barrier that is reflected on their education. This is because in schools, they are taught alongside normal learners and most of the activities involved in the learning exercises are not adapted towards the needs of the hearing impaired students like the quality of teachers they have, teaching and assessment methods and the learning environment. The poor and average performance of these students despite the fact that they are educated with their normal peers prompted the researcher to investigate the prevailing problems that hamper them from performing to their optimal academic potential.

This got the interest of the researcher who then decided to study the impact of teacher's pedagogic competence on the social interactions of hearing impaired students and what impact it produces on the students in the Adventiste secondary school in Yaoundé I″.

1.7. RESEARCH QUESTIONS

1.7.1. Main research question

➢   What are the effects of teacher's pedagogic competence on the social interactions of hearing impairment students?

1.7.2. Secondary research questions

➢   Is there a correlation between teacher's training and social interactions of hearing impaired students?

➢   Is there a correlation between teaching methods and social interactions of hearing impaired students?

➢   Is there a correlation between assessment methods and social interactions of hearing impaired students?

➢   Is there a correlation between the learning environment and social interactions of hearing impaired students?

1.8.RESEARCH OBJECTIVES

1.8.1. Main research objective

➢ To find out the effects teacher's pedagogic competence have on the social interactions of hearing impaired students.

1.8.2 SECONDARY RESEARCH OBJECTIVES

➢ To examine the effects of teacher's training on the social interactions of hearing impaired students.

➢ To find out if teaching methods affects the social interactions of hearing impaired students.

➢ To know how assessment methods affects the social interactions of hearing impaired students.

➢ To verify how the learning environment affects the social interactions of hearing impaired students.

1.9.RESEARCH HYPOTHESES

1.9.1. Main research hypothesis

➢ Teachers' Pedagogic competences have significant effects on the social interactions of hearing impaired students.

1.9.2. Secondary research hypothesis

➢ Teachers training have effects on the social interactions of hearing impaired students.

➢ Teaching methods have effects on the social interactions of hearing impaired students.

➢ Assessment methods have effects on the social interactions of hearing impaired students.

➢ Learning environment have effects on the social interactions of hearing impaired student

1.10. SIGNIFICANCE OF THE STUDY

➢ **To policy makers and educational authorities**

Findings from this study would enable policy makers and educational authorities to detect certain aspects of their schools that serve as an obstacle to the education of learners with hearing impairment as a whole.

This study would expose major challenges of teacher's pedagogic competence on the social interactions with Hearing impaired students in the Adventiste secondary school, by providing

data from which policy makers, curriculum developers and other educational stakeholders at various levels would take measures to overcome the present problems based in Cameroon.

➢ **To the Teachers**

The teachers are daily faced with various classroom with all category of students, they have as duty the proper application of any educational policy and change in the school, findings from this study would enable them to have a change in attitudes toward learners with hearing impairment and other hearing impairment it would also enable them to handle their children with much care, attention and love and it will go a long way to improve on the teacher-student relationship and enhance an academic performance.

➢ **To the parents**

Parents are the secondary educators of children and their carer. Findings from this study would enable the parents to accept their children with their hearing impairment and help them join the community for a better social integration and possible better education.

➢ **To the hearing impaired students**

This study will help the Hearing impaired students to understand that their hearing impairment is not an inability, a blockage, a barrier, but rather they should see themselves as being unique and develop much self-esteem and courage and should make their presence felt in any area they find themselves for a better integration to achieve an inclusive society.

➢ **To researchers**

This study could be used as reference to other researchers and a base to those who want to do their research in inclusive education. The study would equally serve as contribution to research knowledge in the field of inclusive education enabling to evaluate methods and materials needed for hearing impaired students and methods of teaching, assessments, and learning environment to the school authorities.

➢ **To the Community**

Findings from this study will help reduce all negative attitudes (Stereotyped, stigmatization, fear, hero worship, labelling) towards persons with hearing impairment but rather that the community should see and take persons with hearing impairment are "normal persons" because hearing impairment is not a respecter of person, age, social class, race, belief.

➢ **To educational managers**

Findings from this study will enable the educational manager to know that, he needs to be equipped with necessary skills to lead the current educational state, which is inclusive education

with hearing impaired students. Since he will receive every sort of hearing impaired student, he needs to be practically prepared for that.

1.11. DEFINITION OF TERMS

➢ **Pedagogy**

Pedagogy is the instructional techniques and strategies of how educators teach, in practice and theory, pedagogy is shaped by the teaching beliefs of a teacher and relates the interplay between culture and a variety of methods teaching. Thus, it relates to the study of teaching strategies and how they influence students. It refers to the interactive process between teacher or practitioner and learner and it is also applied to include the provision of some aspects of the learning environment (including the concrete learning environment, and the actions of the family and community) (Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002, p.10)

Pedagogy is about learning, teaching and development influenced by the cultural, social and political values we have for children, and underpinned by a strong theoretical and practical base. (Education Scotland, 2005, p.9)

Pedagogy is the function or work of teaching: the art or science of teaching, education instructional methods. (Department of Education, Employment and Work place Relations, 2009, p.42).

➢ **Teachers' pedagogical competence**

Accordingly, Indonesian government policy and regulation defined teachers' pedagogical competence as the understanding of basic education, students, curriculum development, lesson plans, dialogical teaching and learning process, learning evaluation, and student's potential developments. Furthermore, teaching quality is related to the teachers' pedagogical content knowledge, which includes content knowledge, effective teachings, and the knowledge on how students learn the content (Meiers, 2007; Shulman, 1987).

Pedagogical competence is the ability of an individual to use a coordinated, synergistic combination of tangible resources and intangible resources to achieve efficiency and effectiveness in pedagogy (Madhavaram, 2010).

➢ Competence

According to the Concise Oxford Dictionary, competence (or competency) denotes the "ability to do" something or the "ability for a task". The Macquarie Concise Dictionary defines competence as "the quality of being competent", where competent means "properly qualified" or "capable". Significantly, in both of these dictionary definitions the prime focus is on competent people having the ability or Correspondence: P. Hager and A.

A description of the abilities or capabilities required for competent performance of an occupation typically invokes terms such as 'knowledge', 'skills' and 'attitudes', i.e. relevant personal characteristics that underlie competent performance. As the dictionary definitions make clear, the concept of competence centers on ability or capability, which in turn focuses attention on the attributes that comprise/e this ability or capability.

The implication of this is that attributes are a necessary part of any satisfactory conception of competence. This means, for example, that a major feature of a plausible set of occupational competency standards would be some specification of the abilities or capabilities required for competent performance of the occupation.

Forgetting about attributes and concentrating on tasks is the prime reason why so many people lapse into a narrow view of competency standards. Since abilities or capabilities are central to the concept of competence, occupational competency standards that omit attributes are akin to a zoo without animals. In addition, as the dictionary definitions also make clear, ability or capability are directed at some task or tasks, however specific or general these tasks might be. (Competence, and hence ability or capability, is not very general.

It has its appropriate object(s).) Therefore, while attributes are logically necessary for competence, they are not by themselves sufficient. As we have seen, the concept of competence includes the notion of the abilities or capabilities being applied to the performance of tasks. However, 'tasks' should not be interpreted in an exclusively narrow sense. All occupations involve performance of some relatively specific tasks, but equally, if not more, importantly, they involve performance of broader, more generic tasks such as planning, contingency management, etc.

At their broadest, tasks include such things as performing in accordance with an overall conception of what one's work is about, working ethically, etc. Just as abilities or capabilities

were necessary, but not sufficient for competence, so the performance of tasks is also necessary, but not sufficient for competence. Thus, any satisfactory account of competence must include both attributes and tasks. Likewise, any plausible set of occupational competency standards should include both attributes and tasks. This point can be summarized by saying that the concept of competence is relational, i.e. it links together two disparate sorts of things. Competence is essentially a relation between abilities or capabilities of people and the satisfactory completion of appropriate task.

> **Social Interactions**

Reciprocal action in the common sense, often used in sociology as simple synonym for social relation, interaction is, as a concept, a dynamic sequence of social (or joint) actions between individuals or groups of individuals which modify their actions and reactions based on the anticipated and effective actions of others (Celia Bense F. A. et Karim Hamadou, « Interaction », in Anthony Glinoer and Denis Saint-Amand (dir.), Le Lexique socius, URL : http://ressources-socius.info/index.php/lexique/21-lexique/157-interaction, page consulted on 10 October 2022).

> **Impairment**

According to Zola (1989), hearing impairment is part of the human condition. Almost everyone will be temporarily or permanently impaired at some point in life, and those who survive to old age will experience increasing difficulties in functioning. Most extended families have a disabled member, and many non-disabled people take responsibility for supporting and caring for their relatives and friends with hearing impairment. Every epoch has faced the moral and political issue of how best to include and support people with hearing impairment. This issue will become more acute as the demographics of societies change and more people live to an old age.

According to Global burden of disease, (2004), generalizations about "hearing impairment" or "people with hearing impairment" can mislead. Persons with hearing impairment have diverse personal factors with differences in gender, age, socioeconomic status, sexuality, ethnicity, or cultural heritage. Each has his or her personal preferences and responses to hearing impairment. In addition, while hearing impairment correlates with disadvantage, not all people with hearing impairment are equally disadvantaged. Women with hearing impairment experience the combined disadvantages associated with gender as well as hearing impairment, and may be less

likely to marry than non-disabled women may. People who experience mental health conditions or intellectual impairments appear to be more disadvantaged in many settings than those who experience hearing impairment. People with more severe impairments often experience greater disadvantage.

According to (2022 CAREHO), the physical capacity to move, coordinate actions, or perform physical activities is significantly limited, impaired, or delayed and is exhibited by difficulties in one or more of the following areas: physical and motor tasks; independent movement; performing basic life functions. The term shall include severe orthopedic impairments or impairments caused by congenital anomaly, cerebral palsy, amputations, and fractures if such impairment adversely affects a student's educational performance.

According to (*Wilfred Owen) hearing impairment* is any condition that makes it more difficult for a person to do certain activities or effectively interact with the world around them (socially or materially). These conditions, or impairments, may be cognitive, developmental, intellectual, mental, physical, sensory, or a combination of multiple factors. Impairments causing hearing impairment may be present from birth or can be acquired during a person's lifetime. Often, hearing impaired people are "unnecessarily isolated and excluded from full participation in society." As a result of impairments, people with hearing impairment can experience disablement from birth, or may be labeled as disabled during their lifetime.

.**Hearing impairment**

According to WHO, a hearing impaired person is a person who is not able to hear as well as someone with normal hearing-hearing thresholds of 20 dB or better in both ears is said to have hearing loss. Hearing loss may be mild, moderate, severe or profound.

1.12.   INTEREST OF STUDY

It would be interesting to know that from this study, major needs for studies on inclusion of students with hearing impairment in the country will be provided added to that, data from which future educational policies on inclusion could be based in Cameroon. Knowledge of the impact of pedagogic competence on the social interactions of hearing impairment students and inclusive education with disable may help the Cameroonian Education planners in designing of appropriate inclusive education programmes suitable to the needs of these learners. It could be of importance to the Ministry of Education because it may assist in determining quality education for students with hearing impairment in inclusive secondary schools. The results may

also help to change the attitudes of the administrators, teachers, non- handicapped students and the community at large towards the acceptance of students with hearing impairment in inclusive society.

1.13. DELIMITATION OF THE STUDY

Conceptually, this study is limited to teacher's pedagogic competence as a determinant of social interactions of hearing impaired students in the Adventiste secondary school of   Yaoundé 1.

  Geographically, it is restricted to the case of hearing impairment notably hearing impairment in the Adventiste secondary school Yaoundé 1. Also, an opportunity to explore the region and how the state of the region has affected vulnerable students like those in the Yaoundé 1 Adventiste secondary school.

Yaoundé is located 3.8 latitudes and 11.52 longitudes and situated at elevation, 726m above sea level. Yaoundé has a population of 1,299,369 making it the biggest city in Centre. The daily temperature is 32°c maximum while minimum in 24°c the average precipitation is 298m annually. It operates on the WEST (WEST AFRICAN TIME) time zone. The purpose or judgmental sampling technique will be used in the study, a questionnaire, and observation was used in the study to collect data.

This study will be carried out using teachers in Adventiste secondary   school in the Mfoundi division in the centre region of Cameroon particularly in Yaoundé I. In this light the Adventiste College secondary school have been selected purposefully.

Theoretically, the study is limited to Vygotsky's Social Constructivists Theory of Learning and the Social Model of Disability by Mike.

2. INTRODUCTION

According to Creswell (2012), literature is a written summary of journal articles, books, and other documents that describes the past and current state of information on the topic of your research study. It also organizes the literature into sub topics, and as documents, they need for a proposed study.

Best (1986:3) views review of literature as a summary of the writings of recognized authorities and previous research provide evidence that the researcher is familiar with what is already known and what is still unknown and untested.

According to Aktouf (1987 55) A review of literature is a state of knowledge of the topic that is an inventory of the principal work attached to the topic it is a storage which permit from the work of studies to envisage new orientations many research projects have being carried out which are similar to informal education and its effects on hearing impaired performance.

Best (1986:3) views review of literature as a summary of the writings of recognized authorities and previous research provide evidence that the researcher is familiar with what is already known and what is still unknown and untested.

2.1. THEORITICAL LITTERATURE REVIEW

2.1.1. The Medical Model of disability: Kathryn Sullivan (2011).

Professionals present the medical model as viewing hearing impairment as a problem of the person, directly caused by disease, trauma, or other health condition, which therefore requires sustained medical care provided in the form of individual treatment, In the medical model, management of the hearing impairment is aimed at a "cure," or the individual's adjustment and behavioural change that would lead to an "almost-cure" or effective cure. In the medical model, medical care is viewed as the main issue, and at the political level, the principal response is that of modifying or reforming healthcare policy.

With the rise of the medical profession in the late 19th and early 20th century, the medical model began to dominate views of hearing impairment (Midgley). In this model, also known as

the individual model, the problems associated with hearing impairment are seen as lying solely within the individual and his or her medical condition or impairment. The desired solution to these problems is often the cure or rehabilitation of the individual, in order to fix the "defect" so that he or she can become closer to "normal." Under this model its thus easy for people with hearing impairment to be viewed as weak and defective, needy and dependent (since they are assumed to require the aid of medical professionals), and generally incapable of getting good jobs, living on their own or participating fully in society. When people with hearing impairment are seen as sick, as in the medical model, they may tend to be excused from normal obligations in society and are isolated from the rest of the population. These low expectations are damaging both to those with hearing impairment and to society as a whole.

When the medical model is the dominant view of hearing impairment, it is therefore easy to see how negative perceptions of hearing impairment are constructed and reinforced, and how people with hearing impairment are marginalized in society.

In the medical model, society is not seen as having any underlying responsibility to accommodate people with hearing impairment; people must instead adapt themselves to existing circumstances, usually with help from medical professionals who provide treatment and rehabilitation (Kaplan). It is assumed that any problems or issues of access that one might face are a direct result of one's medical impairment and would disappear if only the person were "cured". This goes to show the emphasis the medical model places on hearing impairment being an individual deficiency, a medical condition that ought to be fixed. Making society accessible is not a solution in this model. As long as barriers exist in society, those with hearing impairment are made to feel and seem like they do not belong in the "normal world."

2.1.2. Erving Goffman's Theory of Social Stigma

According to this theory, an individual who has a stigmatizing attribute, which is deeply discredited by his or her society, is rejected because of the attribute. Goffman (1963) refers to stigma as a look into the world of people considered abnormal by society. Stigmatized people are those that do not have full social acceptance and are constantly striving to adjust their social and educational identities among which are: the physically deformed people, disable, and mental patients, drug addicts, and so on. Goffman (1963) also refers to stigma as a special kind of gap between practical social identity and actual social identity: Society establishes a means of categorizing persons and the complement of attributes felt to be ordinary and natural for members of each of these categories.

Goffman continues to say that, when a stranger comes into our presence, first appearances are likely to enable us to anticipate his category and attributes, his "social identity" while a stranger is present before us, evidence can arise of his possessing an attribute that makes him different from others in the category of persons available for him to be, and if of a less desirable kind, he or she is thus reduced in our minds from a whole and usual person to a tainted, discounted one. Goffman says such an attribute is a stigma, especially when its discrediting effect is very extensive. It constitutes a special discrepancy (inconsistency, disagreement, or difference) between virtual and actual social identity.

Goffman identifies three types of stigma: stigma of character traits, physical stigma, and stigma of group identity. Stigma of character traits are blemishes of individual character perceived as weak will, domineering, or unnatural passions, treacherous and rigid beliefs, and dishonesty. Physical stigma refers to physical deformities of the body, while stigma of group identity is a stigma that comes from being of a particular race, nation, and religion.

What all of these types of stigma have in common is that they each have the same sociological features, an individual who might have been received easily in normal social interaction possesses a trait that can obtrude (project) itself upon attention and turn those of us whom he meets away from him, breaking the claim that his other attributes have on us the non-stigmatized.

The stigmatized are ostracized (detested), devalued, rejected, scorned and shunned. They experience discrimination, insults, and attacks and are even murdered. Those who perceive themselves to be members of a stigmatized group, whether it is obvious to those around them or not, often experience psychological distress and many view themselves contemptuously. Although the experience of being stigmatized may take a toll on self-esteem, academic achievement, and other outcomes, many people with stigmatized attributes have high self-esteem, perform at high levels, are happy and appear to be quite resilient to their negative experiences.

From the perspective of the stigmatized, stigmatization involves dehumanization, threat, aversion (dislike) and sometimes the depersonalization of others into stereotypic caricatures (Goffman, 1963) as cited in Wikipedia, (2016).

This theory clearly exposes what stigma is, how it is manifested, how the stigmatized feel, and the stance (withdrawal, aggressive, or resign to fate) the stigmatized take in the society because

of being stigmatized. The theory is clearly reflected in the day-to-day interpersonal relationships or interactions between the disable and people of our society. Because of this condition, persons with hearing impairment experience rejection in the society in which they live in a disguised manner. Nobody voices that I reject you because of your condition.

2.2.THEORETICAL FRAMEWORK

These theories chosen have all the thematic of the research topic; it treats issues on teacher's pedagogic competence and social interactions of hearing impaired students.

2.2.1. Lev Vygotsky's Social Constructivists Theory of learning

Vygotsky was a Russian psychologist. He is considered the father of Social Constructivist Theory. He followed the works of Piaget who is attributed as the roots of constructivism. While Piaget focused on stages of child development and individual construction of knowledge, Vygotsky identified the greater socio-cultural context. According to social constructivism, learning is a collaborative process, and knowledge develops from individuals' interactions with their culture and society.

Social constructivism was developed by Lev Vygotsky (1978) who suggested that every function in the child's cultural development appears twice; first, on the social level and, later on, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological).

The notion of radical constructivism was developed by Ernst von Glasersfeld (1974) and states that all knowledge is constructed rather than perceived through the senses. Learners construct new knowledge on the foundations of their existing knowledge. However, radical constructivism states that the knowledge individuals create tells us nothing about reality, and only helps us to function in our environment. Thus, knowledge is invented not discovered. The humanly constructed reality is all the time being modified and interacting to fit ontological reality, although it can never give a 'true picture of it. Ernest (1994).

Constructivist learning theory underpins a variety of student-center teaching methods and techniques, which contrast with traditional education, whereby teachers to students simply passively transmit knowledge. Social Development Theory argues that social interaction precedes development; consciousness and cognition are the product of socialization and social behavior. In this light, the teaching and learning environment of more knowledgeable children should be that which facilitates social interaction and leads to the acquisition of basic. It asserts

three major themes regarding *Social interaction, the More Knowledgeable Other (MKO), and the Zone of Proximal Development (ZPD).*
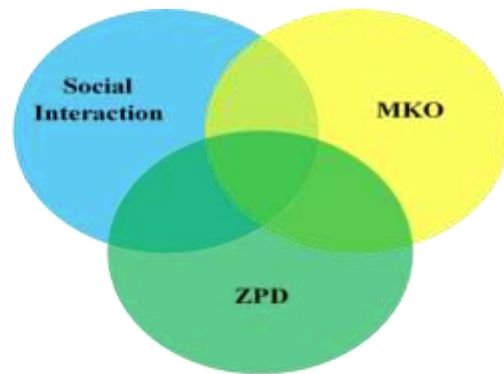
Figure 1: Vygotsky approach

2.2.2. Social Interaction

Social interaction plays a fundamental role in the process of socio-cognitive development. Vygotsky felt social learning precedes development. He states "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level. Social Level is between people who are called inter-psychological and then individual level which is inside the child called intra-psychological.

At the inter-psychological level, children gain knowledge through contacts and interactions with people and then later the child assimilates and internalizes this knowledge adding their value to it at an intra-psychological level.
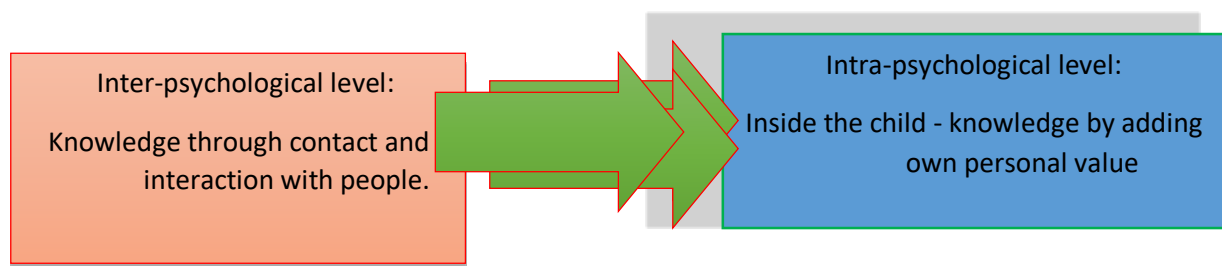
Figure 2: Social Interaction

2.2.3. More Knowledgeable Other

The more knowledgeable other (MKO) is somewhat self-explanatory; it refers to someone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept. Although the implication is that the MKO is a teacher or an older

adult, this is not necessarily the case. Many times, a child's peers or an adult's children may be the individuals with more knowledge or experience. For example, who is more likely to know more about the newest teenage music groups, how to win the most recent PlayStation game, or how to correctly perform the newest dance craze - a child or their parents? In fact, the MKO need not be a person at all. Electronic tutors have also been used in educational settings to facilitate and guide students through the learning process. The key to MKOs is that they must have (or be programmed with) more knowledge about the topic being learned than the learner does.

2.2.4. Zone of Proximal Development

The concept of the More Knowledgeable Other is integrally related to the second important principle of Vygotsky's work, the Zone of Proximal Development. This is an important concept that relates to the difference between what a child can achieve independently and what a child can achieve with guidance and encouragement from a skilled partner. For example, the child could not solve the jigsaw puzzle (in the example above) by itself and would have taken a long time to do so (if at all), but was able to solve it following interaction with the father, and has developed competence at this skill that will be applied to future jigsaws.

Vygotsky (1978) sees the Zone of Proximal Development as the area where the most sensitive instruction or guidance should be given - allowing the child to develop skills they will then use on their own - developing higher mental functions. Vygotsky also views interaction with peers as an effective way of developing skills and strategies. He suggests that teachers use cooperative learning exercises where less competent children develop with help from more skillful peers within the zone of proximal development.

Vygotsky proposed that a child's performance differs between instances in which he tries to solve a problem alone and when another child or adult assists the child. He refers to this difference as the "zone of proximal development." How does this relate to play? If a child is learning to complete a task, such as building a bridge with blocks, and a more competent person provides assistance, then the child is able to move into a new zone of development and problem solving.

Vygotsky refers to this process of assisting as "scaffolding," which helps bridge the difference between a child's current level of problem solving and his potential for more complex problem solving. Imaginative play is essential to cognitive development, but it is becoming endangered

by our busy lives. Children who do not engage in imaginative play because their time is overly structured or spent watching television or other forms of media are not developing the language and reasoning skills that are so critical to early childhood development.

Children have dialogues with themselves when they engage in imaginative play. Role-playing means creating a story and giving a voice to the different characters in the story. When children imitate others, they are developing a vocabulary that allows them to name and navigate the world around them. Less verbal children may talk more during imaginative play than in other settings. Psychologist Lev Vygotsky 's theory of cognitive development posits that information from the external world is transformed and internalized through language.

Since language is both a symbolic system of communication and a cultural tool used to transmit culture and history, play is an essential part of both language development and a child's understanding of the external world. When a child is at play, he or she is in a constant dialogue with either self or others. Children at play are making sense of the world through a process of "inner speech" - that is, they are often talking aloud to themselves. As adults, we lose this capacity because it is not socially sanctioned. If we really listen to children at play, we can hear the way they converse with themselves in order to make sense of the external world. Mimicking adults is often the most obvious way this process can be observed. ("Now, let's wash our hands and eat supper" a child playing "family" might say, for instance).

In addition, Vygotsky defines the Zone of Proximal Development (ZPD) as *the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.* In the ZPD, a teacher and a learner work together on a task that the learner could not perform independently because of the difficulty level. In addition, it reflects the idea of collective activity, where learners who know more or are more skilled share that knowledge and skill to accomplish a task with those who know less. A good deal of guided participation is required when working in the ZPD and learners bring their understandings to social interactions and construct meanings by integrating those understandings with their experiences in the context.
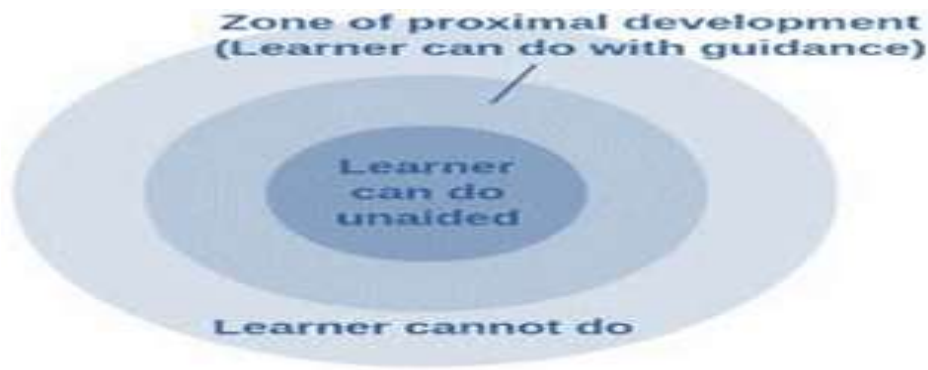
Figure 3: Zone of Proximal Development

2.2.5. The social interaction of play develops cognition

According to Vygotsky, language also serves the purpose of regulation, or self-control over one's own cognitive processes such as memory and thought. As we develop, we transition from being other-regulated to being self-regulated in our cognitive processes. Discovering language via play is an essential part of this transition. Vygotsky was also interested in the role of social interaction on cognitive development and argued that development first takes place socially. That is, children observe parental behavior, listen to parents' speech, and then try to imitate them. As children practice through imitation, parents will guide children, correct them, and provide challenges. Through child-centered play, children take on different roles and try out different language uses, all of which help them on the journey from being externally regulated to internally regulate in cognition. Through play, children become more competent in their language use and begin to regulate their own thought processes.

2.2.6. How Lev Vygotsky Impacts Learning:

Curriculum: Since children learn much through interaction, curricula should be designed to emphasize interaction between learners and learning tasks.

Instruction: With appropriate adult help, children can often perform tasks that they are incapable of completing on their own. With this in mind, scaffolding, where the adult continually adjusts the level of his or her help in response to the child's level of performance is an effective form of teaching. Scaffolding not only produces immediate results, but also instills the skills necessary for independent problem solving in the future.

Assessment methods must take into account the zone of proximal development. What children can do on their own is their level of actual development and what they can do with help is their level of potential development. Two children might have the same level of actual development,

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but given the appropriate help from an adult, one might be able to solve many more problems than the other might. Assessment methods must target both the level of actual development and the level of potential development.

A contemporary educational application of Vygotsky's theories is "reciprocal teaching," used to improve students' ability to learn from text. In this method, teachers and students collaborate in learning and practicing four key skills: summarizing, questioning, clarifying, and predicting. The teacher's role in the process is reduced over time. In addition, Vygotsky is relevant to instructional concepts such as "scaffolding" and "apprenticeship," in which a teacher or more advanced peer helps to structure or arrange a task so that a novice can work on it successfully. Vygotsky's theories also fit into the current interest in collaborative learning, suggesting that group members should have different levels of ability so more advanced peers can help less advanced members operate within their ZPD.

The most important application of Vygotsky's theory to education is in his concept of a zone of proximal development. This concept is important because teachers can use it as a guide to a child's development. It allows a teacher to know what a student is able to achieve with a mediator and thus enables the teacher to help the children attain that level by themselves.

Social Development Theory argues that social interaction precedes development; consciousness and cognition are the product of socialization and social behavior. • The overall goal of education according to Vygotsky is to "generate and lead development which is the result of social learning through internalization of culture and social relationships.

He believes that social interaction plays a fundamental role in the development of cognition. • "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter psychological) and then inside the child (intra psychological) the major theme of Vygotsky's theoretical Framework

Vygotsky recommended the teaching of what he called scientific concepts. • Scientific concepts form a system that covers the essential relationships in a certain domain of knowledge. • Scientific concepts should be distinguished from the everyday concepts that the child acquires independently or in interaction with peers and parents for example: "The child's everyday concept of a king may focus on the king's clothes and his supposed power. Likewise, the child's everyday concept of a farmer may concern his appearance and the fact that he has cute animals. Lev Vygotsky explains this by the   scientific concept of a king would involve knowledge about

different monarchies and other forms of government. The scientific concept of a farmer would involve such interconnected notions as turnover, demand, supply, costs, profit, and market. Secondary (High School Level).

2.2.7. Social Model Theory of Disability by Mike (2000)

The social model theory of disability by Mike, was first put forth in the United Kingdom in the year 1976 statement by the Union of the Physically Impaired against Segregation (UPIAS, 1976). This model encourages the society to view the issue of including persons with hearing impairment from a human right and equality perspective rather than a focus on the persons with hearing impairment from participating in any situation as what handicaps them. PWDs are often made to feel that it is their own fault that they are different. Impairments do not make them less human beings. This is emphasized well by the social model. The PWDs movement believes that cure to the problem of hearing impairment lies in the restructuring of the society, and not focusing on the individual's impairments.

In an inclusive mainstream setting, it is the school's responsibility to re-adjust in order to meet the needs of learners with visual impairments. In the social model, it is well emphasized that children with hearing impairment could have trouble in the education system. This could be due to extensive, demanding, rigid and inflexible curriculum, inaccessible school environment, lack of adequate resources and materials, negative attitude among others. The inclusive education approach however suggests that those difficulties should not be explained simply in terms of children's impairments. It discourages the view that the learner faces such problems due to his or her impairments. Under those circumstances, the option is not to establish a separate special school, which could further separate these children from their peers and families, neither is it cost effective.

Instead, the school should not be seen as creating barriers to learning for the learners with special needs by failing to create an enabling and supportive environment for them. A more appropriate response is to understand the barriers to learning and work out systematically to alleviate them. This model first sees the strength of the child, rather than the hearing impairment. It advocates for the inclusion of all children, however "severe" the hearing impairment is in the mainstream education system.

According to Reiser (2002 in Silverman, 2004), the social model of hearing impairment makes an important distinction between the term's impairment and hearing impairment. It applies in

this study in that many learners with special needs especially those with visual impairments are locked out of education opportunities due to barriers related to school, teacher and expensive educational resources, which are not locally available. To work towards inclusion calls for the removal of such barriers. That could be done by trying certain intervention measures, which could lead to removal of barriers. When this is done, it is expected that the hearing impairment would be limited even though the impairments would still be there (Wormnaes, 2001 in Byran, 2008). This study therefore, used the social model of hearing impairment for it supports the ideas of education of PWDs and encourages the removal of barriers that hinder the learners with hearing impairments from accessing quality higher education. The performance of students with hearing impairments learning in colleges and the university may be highly affected by barriers highlighted in this model of hearing impairment and unless these barriers are removed, individual's academic performance of students with hearing impairments may not be achieved.

This theory is relevant to the study in that when persons with special educational needs are assisted and their resources provided equitably as argued by Rawls in his theory of justice then efforts by the international organizations such as UNESCO and individual nations will go a long way to strengthen and expand the frontiers of the education of the disable and interaction in the society but when this is neglected as the case, the reverse will be true.

2.3. REVIEWS ON TEACHER PEDAGOGIC COMPETENCE

Teachers are people who have been trained to teach learners in schools and as such need to be pedagogically fit for the job. In some situations, the problem of competence comes from the very first stage when teachers had to do training. This takes us back to Teacher training colleges whereby we have different levels of training as well as different entry qualifications. Some teachers spend more years in the training school while others do but a crash program. Comparing these two sets of teachers, it is obvious that the teacher who spends more time in the training center learns more than the teacher who does but a short program of about six months. From the duration teachers spend in the teacher training schools shows that there is bound to be with the teachers' competences.

2.3.1. Teacher's special training on social interaction of hearing impaired students

Good teacher training leads to positive learning environments and in turn, this leads to happy children who are more than willing to come to school. Mentoring and coaching too, form a part of teacher training which helps teachers learn from best practices, analyze, and reflect on their

teaching. Thus, ongoing Professional Development is critical part of the teaching-learning process. Good teacher training puts emphasis on updating teachers with latest research in the education field. It is important that teachers know how children learn, it is important that teachers know up-and-coming technology tools for enhancing the classroom experience. Teachers must learn to collaborate, innovate and reflect and that is where professional development comes to play. Learn, unlearn & relearn is the only pathway to be a successful and outstanding teacher. Because of such concerns, there is usually a persistent need in education to assure effective teaching for students at all levels. The call today is for teachers' evaluation procedures as a way to provide assurance in the teaching or learning processes. Teachers are used to come to their career as teachers with little formal professional training or experience. Lack of professional training and professional development of teachers can be a key source for any dissatisfaction in the quality of their teaching to form competent students with the necessary knowledge and skills in the different subject matters.

Today, there is a need to shift from traditional-based teaching that is largely based on theoretical educational processes to a research-theory-based teaching that informs and inspires teaching practices. This is claimed to have a deep implication in education reflecting the fact that teachers should be in constant contact with research for possible future teaching innovations and incorporating new research findings in their teaching practices to improve leaning and assure high-quality teaching. Teachers' professional training and professional development is a necessary ingredient to support innovative and beneficial teaching.

The aim of the present research paper is to discuss the central importance of teachers' training and professional development in improving and boosting the quality of education in the Algerian context. Some useful ways for evaluating and enhancing teachers' teaching quality will also be suggested in light of research findings. Keywords: Teacher, teaching, training, professional development, quality.

 Hunt and Goetz (1997) reviewed effects of interaction on children with special needs and research on full time placement of children with severe hearing impairment in mainstream schools. From the reviews, they found out that all these were centres for the development of positive identity among students and staff consensus on the value that all children belong to the mainstream schools. They also suggested that there may be relationship between the severity of the hearing impairment and the attitudes although the teachers who had experience working with learners with special needs tend to have a more positive attitude.

When teachers and other support staff are able to work together, for example in teaching situation, problems associated with the severity of the learning difficulty and the relevance of the curriculum are diminished they asserted. (Gay, 1976), pointed out that, school staff needs training and support to take on these new roles and responsibilities. An unskilled teacher however, open minded and willing to try will fail to provide an appropriate education for students with learning difficulties or other special educational needs if more experienced colleagues do not support him or her. Likewise, skill in the use of various teaching methods is insufficient without knowledge of students learning difficulties and the belief that such students can learn. This can lead to teachers having negative attitude.

Rauna (2014) says there seems to be a big gap in the education system in catering for learners with hearing impairment. Thus, the ordinary and regular schools are not able to cater for learners with hearing impairment because the educators claim they do not have enough expertise in teaching methods and learning resources used by learners with impairments such as braille machines and hearing aids.

The gap between the special schools and the ordinary regular schools can only be closed by including learners with special needs in ordinary schools and all the educators sharing in teaching. This is what called for the assessment of educators" attitudes, as they are the sole determinants of the implementation of such a worthy policy. In all the centres and schools visited in Rwanda according to the ministry of education survey report in 2010, capacity and awareness of educators was repeatedly recognised as the key agents in their educational transformations, which is urgently required.

Training sessions using tailored modules are often organised by the supporting NGOs, and intending to transform from the traditional methods towards Individualized Educational approaches such as Peer teaching, group and collaborative learning approaches, all confirmed by educators as resourceful learner-centred strategies that enable those with SEN to study interactively and inclusively.

Besides, study tours in neighbouring countries are sometimes organised by NGOs, and educators have progressively become aware of alternative practice in educating learners with SEN. However, though educators receive a relatively adequate training, there is an established complaint among the trainees that the Ministry of education recognises none of these, and there is pressure to provide a credible teacher training program by Kigali Institute of Education (KIE).

2.3.2. Adaptive teaching methods on social interaction of hearing impaired students

As any good teacher knows, not all students learn in the same way. In addition, it is common for a class of students to be at a variety of levels in any particular subject. Teachers need to use different teaching methods in order to reach all students effectively. A variety of teaching strategies, knowledge of student levels, and an implementation of which strategies are best for particular students can help teachers to know which teaching methods will be most effective for their class. For this, you need qualified teacher to teach. Different teaching methods are used to meet the purpose of making the students understand the subjects. Nowadays, technological gadgets like computer, cameras, CD's are also used frequently to enhance the impact of understanding of a topic. Technically speaking, teaching is an information giving process, which flows, from teacher to the student. The different teaching methods are also called instructional methods.

2.3.2.1.Direct Teaching Method:

This is the most common and widely accepted teaching method. This works wonders in case of children in school and kindergarten. The teacher directly interacts and makes the student understand the requirement. Direct teaching method makes analyzing the understanding level of the student easier. For this, the teacher has to make advance preparation and find out the requirement of the students beforehand.

2.3.2.2.Cooperative Teaching Method:

This type of teaching creates more interest about the subject amongst the students. Since this method is research oriented, it inspires the students to be more passionate about the subject and increases their concentration and attention towards the topic. Sharing is one of the important aspects of this learning method. During interactions, the students understand the subject better.

2.3.2.3.Teacher-Centered Approach to Learning

Teachers serve as instructor/authority figures who deliver knowledge to their students through lectures and direct instruction, and aim to measure the results through testing and assessment. This method is sometimes referred to as "sage on the stage."

2.3.2.4.Student-Centered Approach to Learning

Teachers still serve as an authority figure, but may function more as a facilitator or "guide on the side," as students assume a much more active role in the learning process. In this method,

students learn from and are continually assessed on such activities as group projects, student portfolios and class participation.

2.3.2.5. High-Tech Approach to Learning

From devices like laptops and tablets to using the internet to connect students with information and people from around the world, technology plays an ever-greater role in many of today's classrooms. In the high-tech approach to learning, teachers utilize many different types of technology to aid students in their classroom learning.

2.3.2.6. Low-Tech Approach to Learning

Technology obviously comes with pros and cons, and many teachers believe that a low-tech approach better enables them to tailor the educational experience to different types of learners. Additionally, while computer skills are undeniably necessary today, this must be balanced against potential downsides; for example, some would argue that over-reliance on spell check and autocorrect features can inhibit rather than strengthen student spelling and writing skills.

Since inclusive education insists on adaptive teaching, a quality teacher should be the one who considers these adaptations for students' learning. Although we talk of these modifications and adaptations of teaching and learning environment, in some instances adaptation is not necessary, meaning that, teaching strategies and other practices applied to sighted students can also be applied to students with hearing impairment (Raymond, 1995; Spungin, 2002). The following are several methods teachers use to teach hearing impaired students in an inclusive classroom. Some of these methods are used as they are but other methods require adaptations to work better for students with hearing impairment.

➢ **Encouraging Collaborative Learning**

It is believed that in a learning process student differ in capabilities. Students with low ability will learn from their fellow capable peers. Cooperative learning among students of different learning capabilities and learning needs, in an inclusive classroom, has proved to be effective in promoting academic achievement, positive attitude towards the subject, and improving social interaction among students (Johnson & Johnson, 1986; Lypsky & Gartner, 1997; Mastropieri & Scruggs, 2010; Vygotsky, 1978; Wade, 2000).

Cooperative group learning involves learners working together in small learning groups. This helps students to help each other to carry out different tasks. It is a good strategy of teaching

students with hearing impairment, particularly in the mixed ability groups. It is especially important in third world countries where classes are very large (Mitchell, 2008).

➢ **Sound Projection and Calling Students Names**

Since students with hearing impairments do not hear very well, they rely on the voice and lip reading of the teacher as one of the main sources of information for learning. It is therefore important for the teacher to do some or all of the following: - Firstly, the voice of the teacher has to be pleasant. By pleasant it means that it should produce relaxed tone and pitch. Secondly, the voice of the teacher needs to be interesting to listen to. Speed of talking, volume and pitch are very important to make the voice interesting for students (Best, 1992). Thirdly, a teacher should avoid vague statements. Phrases like "over here" or "this and that" should be avoided as much as possible, because they do not help students with hearing impairments to understand what a teacher is talking about (Mastropieri & Scruggs, 2010).

Fourthly, during the teaching process a teacher should read the notes aloud while writing them on the board or presenting them on the projector (Spungin, 2002). Fifthly, teachers should call the names of students first when they wants to address a specific student, ask questions or give specific instructions so that students know specifically whom the teacher is talking to.

This seems important, because it helps students with hearing impairments feel that they are part of the class and they are effectively included in the lesson (Mastropieri & Scruggs, 2010; Salisbury, 2008). It is equally important to use students' names during class discussions so that students with hearing impairments are in the position to understand who is talking (UNESCO, 2001). Finally, the language that has been used for content delivery in the class has been a major hindrance for the level of engagement and academic achievement of some students, especially those with hearing impairment (Grace & Gravestock, 2009; Hannell, 2007). The best teacher is the one who uses simple presentation and communication. The best teacher also, makes follow up on individual student's tasks in order to make sure that they understand the lesson (Westwood, 1995).

➢ **Need for concrete experiences**

First, teacher should provide early and ongoing opportunities for students to learn about their environments through visual exploration of real objects and situations as well as through other available senses. For students with moderate hearing loss, such experiences should be

supplemented but not replaced, by visual exploration. When actual objects are not available, models may be useful.

➢ Need for unifying experience

Because the ability to perceive the wholeness of objects and events, teachers should provide opportunities for students to integrate parts into wholes. Developing study units, where connections among academic subjects and real life experience can be enhanced (e.g. studying the work of community workers in social studies by visiting those workers in their natural workplaces), is an important way to provide unifying experiences.

➢ Need for Learning by Doing

One can quickly understand the absurdity of providing a verbal description of bowling without the actual event to make it meaningful. Most of the areas of the expanded core curriculum lend themselves very readily to learning by doing approach. All students, regardless of whether they are visually impaired would benefit from instruction based on these three principles of special methods and using methods such as these is integral to the concept of universal design for learning (UDL) that has been mentioned. For students with visual impairments however, the use of a concrete, activity-oriented approach is necessity and must be an integral part of teacher's plans for differentiation (Marilyn, 2008).

2.3.3. Assessment methods on social interaction of hearing impairment students

Student assessment is the process of documenting students' acquisition and mastery of knowledge, skills and competencies in order to make informed decisions about the next steps in an educational process. This implies consideration of students' aptitudes, attitudes, learning styles, progressions and outcomes. Evaluation methods may include written tests, responses to oral questioning, and computer adaptive testing models.

Both in theory and in practice, assessment is recognized as an important aspect of the teaching-learning process. This is manifested with the fact that in most education policies, there is always a section that emphasizes the assessment process and how it should be implemented in the classroom setting. Consequently, teachers are guided and are compelled to practice the whole idea of assessment in their respective classes. However, assessment is a complex concept within the teaching-learning process especially if it is contextualized in terms of student's hearing impairment and the community's perceptions about its purpose.

However, it is to emphasize that the complexity of assessment brings its critical role in the educational process. Primarily, assessment allows educators and other professionals to formulate relevant educational decisions (Taylor, 2003; Brady & Kenndy, 2003; Black & Wiliam, 2004). As Howell and Nolet (2000) assert, "the information obtained from appropriate assessment procedures can be used to enhance the teaching learning process". It is in this reason that the concept has received a great deal of focus from politicians, the business world, and the community. However, the question remains, "how relevant are these ideas to the needs of children with hearing impairment especially those in the developing countries like the Philippines where issues of scarcity of resources, rigid curriculum, and negative perception of the community about hearing impairment are prevalent"?

Because of the intensive advocacy campaign done by certain groups such as the government, civil society, and Persons with Hearing impairment themselves regarding the concept of inclusive education, more and more children with hearing impairment are enrolled in regular schools. Definitely, these children bring diversity to the classroom, which requires the teachers to be critical and sensitive in ensuring that in the aspect of assessment, children with hearing impairment are given responsive and appropriate strategies based on their needs.

The Philippines has been critical in providing appropriate and authentic assessment to all learners. Recently, in 2012, the K to 12 Basic Education Program has been passed into law, which exemplifies the principles of inclusive education, growth and development, teaching and learning, and assessment (SEAMEO and INNOTECH, 2012). Specifically, in terms of assessment, the K to 12 Basic Education Program recognizes learner-centeredness and considers its learning environment system. Furthermore, the program's assessment process includes the employment of vast array of traditional and authentic assessment tools and techniques for a valid, reliable, and realistic assessment of learning (DepEd, 2012). However, in spite of the fact that major policies like the K to 12 Basic Education Program are in place, the Philippine education system has been faced with major challenges especially on assessment. As Black and William (1998) admit, "the everyday practice of assessment in classrooms, elsewhere in the world, is beset with problems and shortcomings". A number of factors causes the challenges of the assessment processes within the Philippine education system. Rodriguez (2008) asserts that rigid curriculum and assessment, classroom shortages, and unfavourable learning environment in general are three of the many causes of students dropping out from school (p. 26). She adds that teachers especially in government schools are left with no other

option but to 'teach to the test' especially that written achievement tests determine the quality of performance of the schools and teachers. As one of the secondary school teacher's shares: I do not have much time and resources for differentiation. I have more than 40 students in class. I also have to cope with the number of chapters and lessons I have to cover and deliver before the national test comes.

In response to these challenges in educating children with hearing impairment, the Department of Education (DepEd) has been committed to creating schools that are more inclusive to the needs of these children. Specifically, an intensive training program for teachers on inclusive education strategies have been implemented with the aim of increasing their capacities in effectively accommodating children with hearing impairment (DepEd, 2012). On the other hand, certain organizations such as The Great Physician Rehabilitation Foundation, Inc. (GPRehab) has been leading the advocacy of the rights of children with hearing impairment in Negros Oriental, Philippines by establishing inclusive education systems in identified elementary schools in the province. This has been concretized by implementing activities such as parents and teachers' training, school-based awareness activities, and monitoring of the status and progress of children with hearing impairment.

The aforementioned initiatives have positively influenced schools' practices on inclusive education. This is an example of how a teacher does it: I have a child with cerebral palsy in my grade III class. Because of her spasticity, she has a hard time accomplishing writing activities in class. I have to make some modifications in my classroom instruction. For exams that require intensive writing, I only ask the child to do a verbal evaluation. For example, in spelling, instead of making her write the words, she spells them verbally.

Definitely, this emphasizes the teachers' innovation and creativity in assessing children with hearing impairment in their classrooms. Miles (2005) stresses that it is empowering to see teachers from developing countries innovating for inclusive education so that they can effectively work with children with hearing impairment. She adds that, indeed, teachers play an important role in making inclusive education a reality. Theoretically, there have been intensive and vast frameworks that are linked with assessment (Subban, 2006). One of which is the concept of Zone of Proximal Development (Vygotsky, 1978), which is considered as a part of a general analysis of Vygotsky's child development (Chaiklin, 2003). The Zone of Proximal Development, as Vygotsky (1978) defines: The distance between the actual developmental level as determined by independent problem solving and the level of potential development as

determined through problem solving under adult guidance or in collaboration with more capable peers. In practice, the role of the Zone of Proximal Development is to point to an important place and moment in the process of child development.

This means that the Zone of Proximal Development presupposes an interaction on a task between a more competent person and a less competent person, such that the less competent person becomes independently proficient at what was initially a jointly accomplished task (Chaiklin, 2003). It is critical to note that the Zone of Proximal Development is considered as one of the most widely recognized and well-known ideas in the studies related to the teaching-learning processes. Specifically, it is linked with the learning of diverse kinds of students, including those with learning difficulties, those coming from disadvantaged backgrounds, and gifted students (Smith, 2000).

➤ **Classroom Assessment Strategies**

  A myriad number of strategies have been identified to assess children, and they apply generally in schooling irrespective of key learning areas and students' learning backgrounds (Taylor, 2003; Brady & Kennedy, 2003; Miller, 2009; McAlpine, 2006). Brady and Kennedy (2003) stress that for children with hearing impairment, these assessment strategies are applicable for as long as teachers modify them based on the needs of these children. The assessment strategies are categorized into four: (1) test, (2) performance assessment, (3) product assessment and, (4) self-assessment.

➤ **Tests**

This assessment takes in the forms of standardized and teacher-devised tests (Izard, 2001). The first form is commercially produced tests that are distributed with a manual explaining how the test is to be administered and marked, while teachers for their own classroom use (Gronlund, 2003) develop the other one. This assessment strategy has to have materials that are not gender or ethnic specific, and sensitive to the diverse learning backgrounds of students (Izard, 2001; Linn & Gronlund, 2003).

➤ **Performance Assessment**

 Forster and Masters (2006) define performance assessment, as "the assessment of students as they engage in real learning activities and it is the on-the-spot evaluation of performance, behaviour, or interaction". When being assessed for performance, students are demonstrating

their skills in a way that is integral to the teaching or learning process. In performance assessment, observation is the central component. It is the structured (looking at behaviour in a systematic way) or unstructured (non-judgmental looking) process wherein the teacher observes various student performances and utilizes a variety of strategies to assess those observed performances (Conner, 2001; Phye, 2007).

➢ **Product Assessment**

Herman (2005) defines product assessment as a "strategy teachers use to assess students in an ongoing way as they engage in the learning process, and it predominantly represents culminations of student achievement". Product assessment has specific forms. They are one. Portfolios. It is being defined as 'a depository of artefacts' or assortment of documents that may include pencil and paper tests, classroom observation, tapes, artwork, poems or stories, and that requires "a written reflection by the developer on the significance or contributions of those artefacts" (Wolf, 2005, p. 36, as cited in Brady & Kennedy, 2003). 2. Exhibitions. These provide the students the opportunity to display their knowledge through variety of presentation techniques such as scripted discussions, role-plays, simulations, and use of audio-visual support (Herman, 2005). 3. Projects. Completed individually or in groups, a project is a substantial piece of work on a designated topic, involving the student in researching and organizing information for presentation. It is claimed as "more flexible than many other assessment situations" (Freeman & Lewis, 2007, p.228) primarily because of student pro activity (choice of topic), extended time for completion, and the possibility of uniqueness (Freeman & Lewis, 2007).

➢ **Self-Assessment**

This assessment strategy provides the students the opportunity to reflect and identify their strengths and weaknesses in the learning process (D'Urso, 2005). Apart from diaries and journals, self-assessment can be done in a variety of ways such as writing conferences, discussions, reflection logs, weekly self-evaluations, checklists, and teacher-student interviews (Bennett, 2011).

➢ **Criteria for Selecting Assessment Strategies**

Certain pieces of literature assert the need to set substantial criteria in selecting assessment strategies especially for students with diverse backgrounds. Masters and Forster (2004) and

Herman (2005) first identified the following criteria: (1) curriculum relevance, (2) instructional utility, (3) fairness, (4) reliability or comparability, and (5) practical

Herman (2005) emphasizes the aspect of fairness by stressing the problem of bias. He stresses, "Many forms of assessment, for example, require extended reading or writing that may discriminate against students from non-English speaking backgrounds" (p. 22). However, Andrews (2005) and Fuller (2006) argue that diversity of students' backgrounds has to include hearing impairment. Both practitioners assert that hearing impairment, in the context of assessment, should not disadvantage him or her. This scenario requires teachers and policy makers to create programs that will provide additional support to students with hearing impairment during assessment processes. The assertions made by Andrews (2005) and Fuller (2006) paved way for more researchers to examine the additional and varied support teachers have for students with hearing impairment enrolled in regular secondary classes.

➢ **Assessment as a Formative Process**

Brady and Kennedy (2011) conducted a study involving a science teacher in a large multicultural secondary class with some students manifesting signs of behavioural hearing impairment. The study aimed at examining assessment as a formative process, rather than summative. This was concretely manifested with the teacher's perspectives on what purposes assessment should serve: (1) provide feedback to students on how they are progressing so that they can target areas of need, (2) provide the same feedback to parents and, (3) provide information to teachers to inform teaching. The teacher utilized a variety of teacher-devised tests, which include multiple-choice questions, short response tests, requiring words, sentences, and the labelling of diagrams. He emphasized the value of the mentioned tests for ranking students. However, the teacher argued that the major purpose of testing is diagnostic and it should not promote the notion that "learning ends when a mark has been obtained" (Brady & Kennedy, 2011, p. 113). The mentioned philosophy of the teacher paved way for him to use varied number of performance or practical assessment strategies specifically designed for the diverse needs of the students. Instead of doing pen-and-paper tests, for example, he assessed them in manipulating scientific equipment to make measurements. In the study, it was observed that the teacher struggled in providing teacher-devised tests to his students with behavioural hearing impairment. This situation allowed him to apply the idea that performance assessment may also involve demonstrating a skill in other ways. The teacher cited, for example, that in his

marine studies subject, it required a lot of basic recall and recognition. Students may simply bring pictures of dangerous marine creatures to the teacher and tick the appropriate outcome.

> **Formative and summative assessments**

Assessment is often divided into formative and summative categories, depending on the purposes of the assessment practices. Summative assessment is generally employed at the end of a course or project. In an educational setting, summative assessments are typically used to assign a course grade to students. Summative assessments are evaluative. Formative assessment is generally employed throughout a course or project. Formative assessment, also referred to as "educative assessment", is used to aid learning. In an educational setting, formative assessment might be a teacher (or peer) or the learner providing feedback on a student's work, and would not necessarily be used for grading purposes. Formative assessment can be diagnostic.

Summative and formative assessments are often referred to in a learning context as the "Assessment of learning" and "assessment for learning," respectively. "Assessment of learning" is generally summative in nature, intended to measure learning outcomes and report those outcomes to stakeholders (students, parents, and administrators, etc.). "Assessment of learning" generally occurs at the conclusion of a class, course, semester, or academic year. On the other hand, "assessment for learning" is generally formative in nature, and is mostly used by teachers to consider strategies for individual learners and whole classes.

One way to differentiate among the three aforementioned types of assessment activities – classroom assessments, examinations and large-scale assessments – lies in that classroom assessment is mainly about assessment as learning or for learning (and hence is primarily formative in nature) while examinations and surveys are mainly about assessment of learning (and hence are primarily summative in nature). These distinctions do not always appear clearly in practice and hybrid approaches are becoming more common.

> **Assessment as Demonstration of Real Achievement**

McMiller (2010), in his study on assessment of children with hearing impairment, highlighted the importance of assessment as means of demonstrating the real achievement of students. The secondary school teacher involved in his study was passionate about assessment that effectively demonstrates student achievement and thereby promotes student self-esteem. As McMiller (2010) asserts from the perspective of the teacher, "assessment should entail multiple ways for

students to demonstrate an understanding. Some students may be able to explain knowledge but not write it. Some may be able to represent it by drawing but not explain it. This is typical to students with learning hearing impairment" (p. 118).

The teacher, influenced by the mentioned philosophy, used a broad range of assessment of strategies across all key learning areas with emphasis on visual arts. She believed that visual arts should be a legitimate focus of children with learning hearing impairment. This provides an indication of the teacher have preferred assessment strategies: 'to facilitate independent thinking, exploration of a variety of materials and media, development of individual ideas, creative expression, development and refinement of skills and techniques, and a time for reflection' (McMiller, 2010, p. 120).

The 'time for reflection' as an assessment strategy was concretely manifested in class through use of extensive student self-assessment. The teacher often would stop a lesson after 20 minutes to ask students what they have learned and to share ideas and learn from peers, and she typically would end a lesson with asking students to write five things they have liked about the lesson or learned from it. This is part of the teacher's philosophy that students especially those with hearing impairment have the capacity to assess their own learning.

2.3.4. Learning environment on social interaction of hearing impaired students

If schools really do play a large role in teaching the next generation how to be successful members of society then every precaution should be taken to make sure that the learning environment is one that helps students thrive.

If not approached correctly, a classroom can be set up in a way that stifles creativity or does not promote a positive learning environment. Many things can affect this environment. There are physical elements such as wall art, arrangement of desks, or resources. In addition, there are intangible elements such as the energy of the classroom, the rules, or the sounds within the room. Each of these can affect a student's focus and achievement in the class. They can also affect a teacher's attitude in the class. Included in each of these elements of the classroom is the emotional environment. The way in which a teacher organizes their class, or how they control it, will yield positive or negative consequences for their students. If a teacher is unmotivated or negative, there will be a direct impact on the students within the classroom. Similarly, if a teacher is motivated and positive they will likely have a beneficial impact on

their students as well. It is important for a teacher to understand this cause and effect in order to understand how to organize their classroom to create a better learning.

One of the first areas that make a noticeable impact on student success is the physical environment of the classroom. This can pertain to a variety of details. It can be structure, resources, color. All of these can play a role in determining whether the classroom will be conducive for learning. Each may not have a large effect individually, however together they can work to strengthen a student's ability to learn.

The second dynamic of a classroom that can affect a student's learning is the nonphysical environment. This consists of things such as sound, temperature, seating arrangements and others. These are elements of the classroom that a teacher cannot physically touch, but they can alter them to increase focus and classroom productivity. Over all, the classroom environment plays a crucial role in keeping students engaged and allowing them to be successful within the classroom. The teacher can modify the environment to achieve these results.

There is a multitude of ways in which to do this. They can arrange the desks in different patterns. They can decorate the walls with different assignments or items. Students can be used to help lead the classroom in the way that the teacher wants to go. Even adapting the lighting or the temperature of the room can increase the effectiveness of instruction in the classroom. A good teacher is aware of these elements and the importance that they play in student success. Without giving attention to the environment of a classroom, the teacher is setting their students up to be less successful.

Environmental changes are changes in the physical environment of the classroom. For example, a teacher may arrange learner desks or learning materials in such a way as to make it easily accessible to all learners. Learners with hearing impairments for example can be placed in the front of the room. Learners with behavioural problems may also be seated close to the teacher. The classroom itself may be structured so that there are several workstations with activities of different levels of difficulty and activities for different styles of learning (Doorlag & Lewis, 1999). For example, one station can be more visually based such as maps, diagrams and pictures; another station can focus on auditory learning with a tape recorder or the teacher giving verbal instructions; and lastly another station may have computers where learners can type instead of write and do extra research on the topic of the week.

According to Carmen (2014), the role of the classroom teacher is to manage the classroom in a manner that meets the individual needs of each student in the class. This includes promoting learning and supplementing activities, coordinating and collaborating with support staff, using a variety of teaching approaches, and adapting instruction to include all students. The classroom teacher is in charge of each student's overall academic program. Charema and Peresuh (1996) contend that inadequate relevant resources and facilities is an obstacle to the implementation of inclusive education in developing countries. A study done by Kisanji (1995) in Tanzania revealed that, appropriate materials were insufficient for children with hearing impairment enrolled in regular schools.

According to Spungin (2002), there are basically three ways through which students with hearing impairment can get information from the environments. Total communication description is the most important source of information to hearing impaired students. However, total description provided by others is always incomplete and cannot satisfy the person's needs. Another way is the use of tactile stimuli. However, a tactile method is also not effective, because a student needs to feel an object repeatedly in order to grasp the image of the object. Finally, students with hearing impairment rely on self-exploration about the world. This way is limited in amount of information that can be accessible to students with hearing impairment. Overall, these modalities together cannot effectively compensate for loss of hearing stimuli; they are there just to reduce the impact to learning caused by lack of audition.

A study conducted in Tanzania on how inclusive education was provided at classroom level, showed that education system continues with segregating and labelling students into" bright students and dull students". The bright students were given more attention than dull students (Mmbaga, 2002) were. Practices of inclusive education in the way these teachers were doing, shows that general teachers are far away from the realities of inclusive education provisions, because learning environments are not adapted and adjusted enough to accommodate and accept the differences among students (Miles, 2003; Mmbaga, 2002).

All of the above-mentioned innovations greatly increase a learner's chance of accessing the curriculum. If the learning environment is not adapted to the learner's specific needs, then the learners intrinsic barrier of not being able to see and therefore not being able to access the curriculum in the normal way, becomes an extrinsic barrier. Unfortunately, many of the adaptations that are needed are too expensive for many mainstream schools to afford. Many teachers in mainstream schools are not trained to work with these apparatuses. According to

Lewis (2002), it is advisable that learners go to special schools for the first few years of their education to learn how to effectively use the specialized equipment as well as other specific skills needed. However, the issue that remains is the fact that they will need access to these assistive devices should they then be placed in mainstream schools.

Classroom accommodations will be quite varied and should be individualized according to the specific needs of the student. However, some basic best practices can guide the development of the most effective adaptations. One thing to always consider is that it is often difficult for these students to become as fully independent as they are capable of being. The classroom teacher should encourage independence as often as possible to avoid the trap of "learned helplessness" (Simon, et al, 2010). Encourage the student to move independently through the classroom, and organize your classroom accordingly. Materials, desks, and other objects in the classroom should be maintained in consistent locations.

Rahman in Asah (2018) is of the opinion that providing diverse appropriate classroom infrastructures such positioning sitting places, build in cupboards and boards or in inclusive classroom settings do facilitates movements in and out of class and do eliminate some of the barriers disabled children face in regular schools. According to information from Save the Children (2002) and UNESCO (1990), most schools lack certain class infrastructures such as built in benches and cupboards but their focus is on the curriculum and on what is taught, rather than on individual children's needs and appropriate infrastructures. This is a form of barrier to children. Changes in classroom infrastructures can change teaching methods because it includes rearranging the classroom so that children can work in small groups - encouraging a 'buddy' system where older or more academically able children are assigned to work with those experiencing difficulties.

2.4. REVIEW ON SOCIAL INTERACTIONS OF HEARING IMPAIRED STUDENTS

The deaf children relationships with their hearing peers in mainstream school, Deaf students who attend residential schools have reported feeling separated from hearing society, a lack of experience with hearing people, and not knowing how to engage in effective interaction with them (Scheetz, 2004). Deaf students who attend mainstream schools on the other hand have reported feeling like they have limited opportunities for interactions with their peers as well as feelings of social isolation. However, they feel better educated and lore skilled at interacting with hearing people than do those who attend residential school (Scheetz, 2004).

Most, Weisel, and Tur-Kaspa (1999) (are cited in Batten, Oakes and Alexander, 2013), found that more interaction with deaf students gave hearing students a more positive perception of the deaf students (Must Et al…, 1999). This finding is in-line with the results of LaBelle, Booth, Butterfield and Rittenour's inter-group anxiety studies. Stinson and Leu (1999) (are cited in Batten Et al, 2013) found that hearing students negative attitudes towards deaf students were based on their problems communication with them, such as; Frustration, Fear unfamiliarity, misunderstanding, and averness in out-group in general (Stinson and liu, 1999).

Furthermore, Bat-Chava and Deignan, (2001)) (are cited in Batten Et al), Found that deaf students have stronger relationships with hearing students who were more patient and put more time and efforts in the relationship (Bat-Cheva and Deignan, 2001). However, Heider (1948), (are cited in Clymer, 1995), found that deaf students relationships were weaker, less productive and less concrete than hearing students (Heider, 1949).

Finally, Anita, Johnes, Luckner and Kreimeyer and Reed (2011), researched how general education teachers rated the teacher's skill of their students with hearing use, how those students rated themselves and if they were differences between the two. They found somehow surprising how regular contact with hearing peers in school did not negatively affect deaf student's social acceptance. Instead, more participation in social activities with hearing students was correlated with high social competences, a positive outcome of deaf hearing interactions, (Anita Et al, 2011). In other words, they found no significant differences between social rating of deaf students and hearing students. From all these results, it is seen that the extent of contact with hearing peers in schools plays a role, whether negatively or positively in both the hearing students comfort and the deaf students social acceptance.

Ferguson PM, (2001), also argues that hearing impairment is a human rights issue because:

■ People with hearing impairment experience inequalities for example, when they are denied equal access to health care, employment, education, or political participation because of their hearing impairment.

■ People with hearing impairment are subject to violations of dignity for example, when they are subjected to violence, abuse, prejudice, or disrespect because of their hearing impairment.

■ Some people with hearing impairment are denied autonomy for example, when they are subjected to involuntary sterilization, or when they are confined in institutions against their will, or when they are regarded as legally incompetent because of their hearing impairment.

The WHO, seeking a definition that encompasses both the medical and social models, has developed the International Classification of Functioning, Hearing impairment and Health (ICF) (World Health Organization, 2001), which currently is widely used by researchers and policy makers when addressing hearing impairment issues in the global development literature. In this model, hearing impairment is an umbrella term, embracing impairments, activity limitations and participation restrictions.

Impairment is a limitation in physical and intellectual function; an activity limitation is a difficulty encountered by an individual in executing a task or action; an individual in relation to the surrounding physical, social or cultural environment encounters a participation restriction. Thus, hearing impairment is a complex phenomenon, reflecting an interaction between features of a person's body and features of the society in which he or she lives.

 According to the International Classification of Functioning, Hearing impairment and Health (ICF) advanced the understanding and measurement of hearing impairment. It was developed through a long process involving academics, clinicians, and importantly persons with hearing impairment. The ICF emphasizes environmental factors in creating hearing impairment, which is the main difference between this new classification and the previous International Classification of Impairments, Hearing impairment, and Handicaps (ICIDH). In the ICF, problems with human functioning are categorized in three inter-connected areas:

• impairments are problems in body function or alterations in body structure for example, paralysis or blindness;

• activity limitations are difficulties in executing activities for example, walking or eating;

• Participation restrictions are problems with involvement in any area of life for example, facing discrimination in employment or transportation.

Hearing impairment refers to difficulties encountered in any or all three areas of functioning. The ICF can also be used to understand and measure the positive aspects of functioning such as bodily functions, activities, participation and environmental facilitation. The ICF adopts neutral language and does not distinguish between the type and cause of hearing impairment – for instance, between "physical" and "mental" health. "Health conditions" are diseases, injuries,

and disorders, while "impairments" are specific decrements in body functions and structures, often identified as symptoms or signs of health conditions.

There are many types of impairments, such as those that affect a person's:

- Vision

- Movement

- Thinking

- Remembering

- Learning

- Communicating

- Hearing

- Mental health

- Social Relationship

Although "people with hearing impairment" sometimes refers to a single population, this is actually a diverse group of people with a wide range of needs. Two people with the same type of hearing impairment can be affected in very different ways. Some hearing impairment may be hidden or not easy to see.

According to the World Health Organization, impairment has three dimensions: one

1. **Impairment** in a person's body structure or function, or mental functioning; examples of impairments include loss of a limb, loss of vision or memory loss.

2. **Activity limitation**, such as difficulty seeing, hearing, walking, or problem solving.

3. **Participation restrictions** in normal daily activities, such as working, engaging in social and recreational activities, and obtaining health care and preventive services.

Hearing impairment can be :

❖ Related to conditions that are present at birth and may affect functions later in life, including cognition (memory, learning, and understanding), mobility (moving around in the environment), vision, hearing, behavior, and other areas. These conditions may be

o Disorders in single genes (for example, <u>Duchenne muscular dystrophy</u>);

o Disorders of chromosomes (for example, <u>Down syndrome</u>); and

o The result of the mother's exposure during pregnancy to infections (for example, rubella) or substances, such as alcohol or cigarettes.

2.5.EMPIRICAL LITERATURE REVIEW

Dadi et al (2020) writing on Teacher's Pedagogic Competency in The Process of Learning Physical Education in Elementary Schools in South Aceh. Pedagogic competence is the ability to manage students and help them learn. Learning activities include material preparation, preparation for delivering and discussing material, providing facilities, giving lectures and instructions, solving problems, guiding, directing, and sometimes providing encouragement or motivation. Physical education teachers do not yet understand the concepts and goals of physical education and sports, theory development in learning, and evaluation. Inadequate conditions of sports facilities and equipment in schools have an impact on student-teacher motivation in learning activities so that teachers must be motivated to develop fun and useful learning ideas for student. Materials and Methods: This study uses a qualitative approach to directly observe the object of research. The data source of this research is physical education teachers from the education office in South Aceh District. Researchers took as many as 30 schools based on the classification of Inland, coastal, and urban areas. There are eight schools where teachers of physical education with a background in physical education and 22 schools had a teacher of physical education at the educational background of nonphysical education upbringing coat many Results: 83.33% of physical education teachers in 25 elementary schools did not meet the passing grade of the Teacher Competency Test.

As many as 16.67% of physical education teachers at 5 elementary schools met the passing grade according to the provisions of the Ministry of National Education, namely passing grade 55. In the process of implementing physical education learning, for the initial activities 8 physical education teachers stretched and warmed up, but 22 people other teachers didn't

implement. Two teachers used learning media according to the planned subject matter and as many as 28 teachers did not use learning media by the order of the learning material. In the final activity, six teachers followed up on the learning process that had been implemented and 24 teachers did not implement it. Physical education teachers who have a background in physical education have adequate pedagogical competence.

The teacher has been able to identify the characteristics of students well through physical movements that students practice. The teacher can practice the movements according to the material in Physical Education well to students. In addition, teachers can carry out the learning process according to the syllabus and evaluate learning outcomes well. While teacher's with physical education backgrounds nonphysical education upbringing physically have not shown that the maximum implementation in the learning process. The ability to identify talents, interests, potentials, and learning difficulties of students still needs to be improved. They only carry out the learning process just to fill teacher vacancies. They only allow students to play alone without giving directions.

The pedagogical competence of physical education teachers with physical education backgrounds at eight Public secondary Schools in The South Aceh District has good pedagogical competences. The teacher has been able to identify the characteristics of students well through physical movements that are practiced by students. The teacher can practice the movements according to the material in Physical Education well to students. Meanwhile, teachers with a non-Physical Education background at 22 Public Elementary Schools in South Aceh District have not shown maximum implementation in the learning process.

Putu (2019) writing on Teacher's Pedagogic Competency and National Examination Result at Elementary School. This study aims to determine the relationship of teacher pedagogic competence to the national science exam results in elementary schools in the district Gerokgak. The population in this research is all the sixth grade teachers in Gerokgak sub district and the sample in this research is 29 teachers.

Instrument in this research-using teacher's pedagogic competence questionnaire and the value of national examination result of academic year 2016-2017. The research method used is ex post facto while the data analysis using correlation analysis with the help of SPSS 16. Based on data analysis, it is found that the pedagogic competence relationship of teacher to the result of national science test shows the correlation of being with 0.47%. While the pedagogical

competence of teachers contributes as much as 22.09% to the national science exam results, and 67, 91% is influenced by other variables not implemented in this study. Pedagogical competence is primarily concerned with the level of understanding of learners, instructional design, and implementation of learning the diagnosis, evaluation of learning, the development of learners has provided significant support in the form of professional pedagogical teaching

Tanyi (2016) Writing on Pedagogic Barriers in Cameroon Inclusive Classrooms: The Impact of Curriculum, Teachers' Attitudes and Classroom. The purpose of the study was to examine if the curriculum, infrastructures and teachers' attitudes may influence school exclusion amongst hearing impairment. Three hypotheses were formulated based on the three variables: curriculum (teaching programmes), infrastructures and teachers' attitudes. A questionnaire was used for data collection. Both descriptive and inferential statistics were used to analyse the data.

The results show that there was a significant impact of curriculum and teachers' attitudes on inclusive classroom but there was no significant impact with respect to the infrastructure variable. Considering that infrastructure variables have no impact, we still recommend that good quality and relevant infrastructure be put in place and also teachers' programme and training be revised to enhance the pedagogic skills that may include handing individual students' differences in inclusive classrooms.

The result of this study revealed that even amongst these few regular schools, this disadvantaged group still suffer exclusion because of the nature of school curriculum and the teachers' attitudes. It therefore means that adequate consideration has not been given particularly in terms of teachers training programme, the absence training of specialised teachers to enhance their attitudes towards this group of students. On the other hand, the result of the study reveals that class infrastructures variable has not obstructed inclusive education in Cameroon.

2.6. GENERALITY OF THE EAR ORGAN AND HEARING IMPAIRMENT

Hearing is mandatory to all, hearing or auditory perception is the sense of detecting sound that is, receiving information about the environment from vibratory movement, which is communicated through a medium such as air, water or ground.

2.6.1. Parts in Hearing Mechanism

The human ear is a fully developed part of our bodies at birth and responds to sounds that are very faint as well as sounds that are loud. Knowledge on the main components of human ear is important in the process of hearing. The three parts that are leading up to the brain are outer ear, middle ear and the inner ear.

The basic knowledge is learned through the five senses. Seeing – 83% Hearing – 11% 9 Touching – 3½ % Smelling – 1 ½% Tasting – 1% People generally remember 10% of what they read 20% of what they hear 30% of what they see 50% of what they hear and see 70% of what they say as they talk 80-90% of what they hear see and do. Hearing empowers us and helps us lead our everyday lives without limitations. It enables us to socialize, work and communicate. It also helps us stay connected to the outside world and it keeps us safe by warning us of potential danger.

2.6.2. Measuring Hearing

We measure the ability to hear (auditory acuity) and hearing loss using two dimensions: that include intensity and frequency. People hear sounds at specific levels of loudness (intensity). Loudness is expressed in decibels (db) the greater the decibel level, the louder the sound. A decibel level of 125 or louder is painful to the average person. Decibel levels of 0 to 120 are used to test hearing at various frequencies. Frequency (or pitch) is measured in hertz (hz), which indicates cycles per second. The frequency range for conversational speech is 500 to 2,000 Hz. Both loudness and frequency can be measured with an audiometer. Though hearing is an important sense, we, humans cannot hear some sounds, whereas dogs, some marine mammals can hear sounds that humans cannot hear. What sounds a marine animal or we can hear depends on the frequency of the sound and the intensity of the sound. For humans, the sounds we hear best are those used in conversation. Hearing loss can be difficult to diagnose in infants and babies because they have not yet developed communication skills. All babies are 10 screened before they leave the hospital to see if they have hearing loss. Sometimes parents may begin to notice that the baby does not respond to loud noises or to the sound of voices, or has a delay in speech. A hearing test provides an evaluation of the sensitivity of a person's sense of hearing and is most often performed by an audiologist, who is a health professional who specializes in diagnosing and treating hearing problems.

The audiologist will do various hearing tests that can help detect where the problem might be by using an audiometer. An audiologist will conduct a hearing test at different frequencies and

intensities by making the person to respond when they hear a tone (behavioral hearing test), electro-physiological responses of the auditory system for those who cannot respond through behavioral hearing test (Oto-acoustic Emission test or OAE). The audiologist measures the hearing loss and plots a graph called an audiogram, showing how much that person can hear. The audiologist uses this information and conducts some other tests to understand the degree of hearing impairment and type of hearing impairment to suggest hearing aids or cochlear implantation. Hearing is an easy and mandatory for normal people.

Occasionally they may miss a few words, but in general, effortlessly they move around in everyday life without paying it. However, things are not as easy with hearing loss persons. It (hearing loss) make them (persons) to experience all sorts of emotions from worry to sadness and loneliness, feel tired and irritable from having to concentrate just to hear what people are saying.

2.6.3. Process of hearing and types of hearing loss

The human beings develop spoken language within the first few years of life. Language is learned through exposure to sounds. Children pick up words they hear in their environment. Hence, the ability to hear is central to this learning process. The literacy generally depends on understanding the speech. Therefore, hearing is important for learning to read the written word.

2.6.3.1.Physiology of Hearing Mechanism

Physiology indicates the way in which a living organism or bodily part functions. Regarding the hearing physiology, it a sound wave that is transmitted through four separate mediums in the human ear along the auditory system before a sound is perceived, in the outer or external **ear-air, in the middle ear- mechanical, in the inner ear - liquid and to the brain- neural.**

2.6.3.2.Role of the External Ear

• The pinna collects the sound waves from all directions and direct them into the ear canal. It also makes the higher frequency sounds (i.e. 5000 Hz to 7000 Hz) a little louder by resonating‖ it.

• The ear canal helps in smooth transmission of sound waves from the pinna to the eardrum. It also amplifies and makes certain frequencies (around 2000 Hz) sound louder by its natural resonance. Because of its s-shape, the ear canal protects the eardrum from direct injuries from sharp objects. The hair and the wax present in the ear canal protects the eardrum and other

delicate structures in the middle ear by preventing the entry of any foreign body such as insects, worms, dusts, just to name these few.

2.6.3.3.Role of the Middle Ear

The sound waves transmitted from the ear canal fall on the tympanic membrane and set it to vibration. This vibration in tympanic membrane in turn vibrates the acicular chain. The sound is passing through the acicular chain, then the footplate on the vibration pass to the inner ear. Thus, middle ear plays a very important role in the process of transmission of sound from the outer ear to the inner ear. The middle ear conducts the sound from outer ear to the inner ear. It acts as a transformer whereby it conserves and enhances the sound energy so that not much energy is lost due to impedance mismatch while transmitting the sound from air medium of middle ear to fluid medium of inner (that is; to the perilymph to Scala Vestibule). The transformer action of the middle ear enhances the sound energy approximately up to 27 db. It protects the inner ear by two ways,

(a) It gives the cushioning effect to the inner ear.

(b) The contraction of the stupendous and tensor tympani muscles protects the structures in the inner ear from damage due to very loud sounds.

• The Eustachian tube helps to maintain the air pressure in the middle ear with that of the surrounding atmospheric pressure. This helps in the effective conduction of sound from the outer ear to the middle ear. Eustachian tube also helps to drain out any secretion produced in the middle ear into the Naso-pharynx.

2.6.3.4.Role of the Inner Ear

The vibrations in the tympanic membrane set the acicular chain in motion as a result the footplate of the stapes starts moving or rocking‖. This disturbs the fluid in the Scala Vestibule. This results in propagation of a sound wave toward the apex of the cochlea. The sound vibrations that are introduced into the Scala Vestibule in turn displace the Reissner's membrane, which separates the Scala Vestibule from Scala Media. This displacement of the Reissner's membrane sets the endolymph to vibrate. These vibrations in endolymph displace the basilar membrane similarly like the Reissner's membrane.

Since the Organ of Corti is located or situated on the basilar membrane, as a result these vibrations are readily transmitted to it. The up and down movement of the basilar membrane in

response to fluid displacement activates the hair cells in the Organ of the Corti. Hair cell activation triggers the nerve impulses in the 8thnerve. These impulses are electrical in nature and are conducted along the auditory pathway. However, sound 13 may reach the inner ear by other routes also such sound can directly travels across the middle ear and stimulate the round window. It can also be transmitted through the bony structures of the skull. Thus, inner ear has the following functions.

• It acts as a transformer whereby it converts the mechanical energy (sound vibrations) into electrical impulses by the functions of the hair cells. This process is called as the Transduction Process.

• Cochlea has Tonotopy Organization‖ or Frequency Tuning‖ function that is; at the cochlear level itself, the analysis of the frequency of sound takes place.

In addition to hearing information (function), the inner ear also converts information regarding the body's position and movement into a bioelectrical code and sends the same information to the brain via the auditory nerve.

2.6.3.5.Role of the Auditory Pathway

Sound converted by the hair cells into electrical impulses is referred to as Action Potentials. These electrical impulses are then transmitted to the brainstem through the frequency, intensity and time of the sound very systematically till they reach the auditory cortex. Majority of these impulses from the right side cross over to the left side and vice-versa. Once the impulses reach the various parts of the auditory cortex then the sound will be perceived and heard. Thus, in the mechanism or process of human hearing, the auditory pathway functions as a RELAY and CONTROL Center. Thus, the auditory nerve and the auditory pathway play an important role in recording and processing of information reaching to the auditory cortex.

2.6.3.6.Causes of Hearing Loss

During knowing the importance of hearing, it is necessary to know the causes for the hearing impairment. Causes of hearing loss are classified into three broad categories namely prenatal, perinatal and post-natal causes.

2.6.3.7.Prenatal Causes

Many times, congenital deafness is strongly co-related to the damage to the embryo in uterus. Thus, when the mother incurs certain diseases early in the pregnancy especially during the first

three months of 14 pregnancy (when vital organs like brain and organs related to the auditory system are developing), can result in hearing impairment in child. The causes include: - Age of mother below 18yrs and above 35yrs increases the chances of hearing impairment in child.

- Increase the dose or duration of autotoxin drugs (usually amino-glycoside group) during pregnancy lead to hearing loss.

- Oral contraceptives and other gynecological drugs also cause progressive hearing loss. Exposure to Radiation or chemicals especially during 1st trimester increases the chances of impairment.

Physical or Physiological trauma during pregnancy leads to miscarriage or hearing loss. The first trimester is important as the development of vital organs takes place during that time. During this, period Infections can have impact on developing embryo and thus can cause hearing loss. Infections could be viral or bacterial.

Viral Infections, Rubella commonly known as German measles is common in pregnant females and leads to multiple hearing impairment and syndromes.

Measles-Highly contagious and may cause;

• Moderately severe to severe hearing loss

• Sloping configuration-hearing loss. Mumps may cause;

• Unilateral severe to profound SNHL

• Causes infertility, and other infections

• Whooping cough

• Pertussis

• Diphtheria

• Tetanus Bacterial Infections

Tuberculosis; can cause multiple perforations in the TM. Autotoxin drugs used to treat TB can lead to hearing loss and may affect the vestibular system.

Syphilis; Sexually Transmitted Diseases (STD) causes severe to profound hearing loss and directly attacks the cochlea.

Meningitis may cause Mental Retardation, Blindness, Hearing loss.

Encephalitis may cause death or atrophy of brain tissue and may cause hearing loss. The other knows etiological factors causing hearing loss are maternal alcoholism and drug addiction. The conditions such as maternal irradiation, toxemia, diabetes and sever systemic maternal illnesses also have been documented as causes of hearing loss. Maternal malnutrition and maternal use of certain drugs like quinine and derivatives (drugs used to relieve pain) may affect the fetus and lead to hearing loss.

2.6.3.8.Perinatal Causes

Any complications occurring during the process or at the time of birth or immediately after birth may be responsible for causing hearing losses in children. The perinatal causes make the children at double risk to develop or to acquire hearing impairment in later stage of life. These conditions are grouped in a category known as High Rick Criteria‖ or High Risk Register. The conditions that are associated with the high-risk group are as follows:

- Birth Asphyxia: It indicates that the child does not breathe nor has difficulty in breathing, immediately after birth. These results in delayed birth cry. This occurs due to lack of oxygen supply to the brain resulting in permanent damage to the brain. If this damage occurs in auditory area‖ in the brain and it result in hearing impairment‖ in the child.

- Low Birth Weight: Weight of during baby at birth is considered as low if it is less than 1500 grams.

- Consanguinity: Marriage of parents between close relative is e.g. first cousins.

- Birth Defects of Ear, Nose and Throat: The child is born with congenital defects of ear like atresia, microtia etc., and with cleft lip and palate, just to name these few.

Hyperbilirubinemia (Excessive Billrubin): The child develops severe jaundice, immediately after birth, which requires treatment like phototherapy, blood transfusion depending upon the severity of jaundice.

- Family History of Hearing Loss (Hereditary Hearing Loss): There is one or more hearing impaired persons in the family.

-Prematurity: Birth of a child before completion of normal pregnancy period (that is: nine months or 36 weeks).

- RH Incompatibility: Mother and baby (fetus) having opposite or different blood groups (that is; Rh + ve and Rh – ve) as a result ―severe jaundice‖ in baby (fetus).

- Severe Infections: Severe infections in the early weeks after birth e.g. meningitis, mumps, measles etc. 10. Birth Defects of Head, Face and Neck: The child may have small head (microcephaly) or abnormally large head (megacephaly). Torches Infections these are severest infections associated with prenatal and natal period and are known to cause hearing impairment in baby or child. These are as follows:

• Toxoplasmosis

• Other infections like Bacterial Meningitis

• Rubella

• Cytomegalic Virus (CMV)

• Herpis Simplex

• Excessive bilirubin (Hyperbilirubinemia)

• Syphilis the above stated conditions (that is; High Risk Criteria and TORCHES Infections) are closely associated with hearing loss. However, hearing loss is only one of the hearing impairment associated with the above group.

Another perinatal cause is; hemorrhage‖ occurring during the process of birth and shortly after birth. Numerous causes for hemorrhage includes trauma from prolonged or rapid delivery, caesarean section, breech presentation, other abnormal birth conditions and an in appropriate obstetric practice that is; deliveries are conducted at unhealthy places and by untrained personnel. The bacterial and viral infections occurring during the birth and immediately after birth can destroy cochlear hair cells thus leading to permanent hearing loss. The diseases that

may cause sensor neural hearing impairment include measles, mumps, scarlet fever, diphtheria, whooping cough and any of the unknown viral or bacterial infections.

2.6.3.9.Post Natal causes

Anything that completely blocks the ear canal can cause hearing loss. Blockage with earwax is common. However, they sometimes can cause 17 external ear infections. Many other problems can also block the ear canal and lead to hearing loss. Such as;

• Foreign bodies in the ear

• An injury

• A growth in the ear canal any of these, including blockage by wax, may result in conductive hearing loss. A doctor can cure this easily by removing the wax either either either with specially designed instruments or flushing with water. Problems that can affect the middle ear and lead to hearing loss include:

• Ear infection

• Fluid in the ear

• Otosclerosis

• Tumors Ear infections: Temporary hearing loss is commonly caused by ear infections. Middle ear infections cause swelling of the lining in the middle ear and often an accumulation of fluid (such as pus). When there is fluid behind the eardrum and surrounding the ossicles (the three small bones in the ear), these structures cannot work properly, and hearing loss results.

 Glue ear: Ear fluid not caused by infection accumulates commonly in children, and sometimes in adults. This condition is known as glue ear, or chronic Otitis Media with Effusion (OME). Fluid in the ear usually is due to malfunction of the Eustachian tube, which connects the ear with the back of the throat. The job of the Eustachian tube is to keep the pressure in the middle ear approximately the same as that in the ear canal and outside world. The presence of fluid causes hearing loss, and sometimes frequently recurring middle ear infections (acute otitis media).

Otosclerosis: is a common hereditary disease in which new bone is deposited around one of the tiny bones in the middle ear, specifically around the footplate of the stapes (or stirrup ') bone. This prevents normal bone transmission of sound from the eardrum to the inner ear and consequently, conductive hearing loss results. This hereditary condition is present in females than males and it causes significant hearing loss in about one percent. It occurs less commonly in black and Asian people. Otosclerosis generally becomes apparent during early adult life, and the severity of hearing loss can be accelerated by pregnancy.

Tumors: of the middle ear may be responsible for hearing loss. They may be cancerous (malignant) or noncancerous (benign). These many conditions cause the delicate inner portion of the ear to function abnormally. They include:

Otosclersis: (the hereditary disease in which bone deposits collect around the small bone in the middle ear known as the stirrup) can also affect the cochlea (the coiled tube in the inner ear), and cause hearing loss in some people. Fistula: A fistula (opening) is an abnormal connection between the inner ear and middle ear. The inner ear is filled with fluid, and the middle ear is filled with air. If a fluid leak occurs from the inner ear, hearing loss and dizziness commonly result. This kind of hearing loss often is cured by surgically repairing the fistula. Such leaks are usually caused by trauma. The trauma may be direct, such as a blow to the ear or a head injury in a car accident. However, it may also be the result of air pressure changes in an airplane trip, a forceful sneeze, or lifting a heavy object. Head injury: Direct head trauma, particularly trauma severe enough to cause unconsciousness, can cause inner ear concussions and hearing loss. Meniere's syndrome: Meniere's syndrome is a condition characterized by fluctuating hearing loss (usually more prominent in the lower frequencies where we hear speech), dizziness, fluctuating ear pressure, and tinnitus (a noise sensation heard in one or both ears). It is due to a swelling and fluid overload of the middle compartment of the inner ear (a condition known as endolymphatic hydrops).

Noise: Due to the progress of civilization, the noise has now become the part of the human environment. The noise is called as slow poison as it has adverse effects on human physiology, it produces permanent adverse changes in many human bio-systems including ear. Noise is an important cause of hearing loss. An estimated 7 to 10 million people in American industry have noise-induced hearing loss, virtually all of which was preventable. In addition to industrial noise, recreational noise can damage hearing. Such noise is encountered commonly from gunfire, power tools, snow blowers, motorcycles, loud music (especially with earphones) and

other causes. In some cases, the playing of musical instruments can damage hearing. This has been reported not only with loud, electrical rock and roll instruments, but also with classical music performance such as violin playing and flute playing. One can minimize such problems by using ear 19 protection whenever practical, such as during selected practice sessions. Neural problems: Neural (nerve-related) problems may also produce hearing loss. Among the more common are:

• Acoustic neuroma, a common tumor of the acoustic nerve

• Multiple sclerosis

• Autoimmune sensor neural hearing loss, in which the body attacks its own ear. Ototoxicity: There is a group of certain drugs that are known to cause cochlear and in certain cases vascular damage leading to hearing loss. Such drugs are termed as Autotoxin drugs. Drugs which are particularly toxic to the ear are certain antibiotics (especially, Mycin‖ group drugs), Salicylates and Quinine (Amino glycosides as they are called biochemically) Streptomycin, which is prescribed for treatment of tuberculosis, is both a vestibule-toxic and autotoxin drug. Aging: Degenerative changes of aging also lead to sensor neural hearing loss. This condition is commonly known as Presbycusis or Old Age Deafness. It is the most common cause of sensor neural hearing loss in the adult population. Because of advancement or invention in science has now increased. Recent survey and statistics have shown that the hearing impairment can occur in as many as 25% of those in the age group for 65 to 70 years.

2.6.3.10. Types of Hearing Loss

There are five basic factors based on which hearing loss are mainly classified. These factors include:

- Age of onset;

- Site of lesion;

-Causal factor;

- Nature of hearing loss;

-. Degree of hearing loss.

Age of onset based on age of onset (factor of time), organic hearing loss can be classified as Congenital Hearing loss, hereditary hearing loss and Acquired Hearing loss.

A. Congenital Hearing Loss: It refers to any hearing loss occurring prior to birth or at the time of birth. It may be hereditary or may develop during prenatal or natal period.

b. Hereditary Hearing Loss: Hereditary hearing loss may be defined as the hearing loss caused by factors present in the 20 genetic makeup of the fertilized ovum. Hereditary hearing loss may transmit as a dominant or recessive characteristic.

c. Acquired Hearing Loss: The term indicates that the hearing mechanism was normal or developed at a later stage due to some reasons like severe illnesses (such as meningitis, encephalitis, just to name these flews), accidents.

Site of lesion based on site of lesion, hearing loss can be classified as Conductive Hearing Impairment, Sensory neural Hearing Impairment, and Mixed Hearing Impairment.

A. Conductive Hearing Impairment: Any dysfunction of the outer or middle ear in the presence of a normal inner ear is termed as a conductive hearing impairment. In conductive hearing impairment, the difficulty is not with the perception of a sound but with the conduction of sound to the analyzing system. Conductive hearing impairment is reversible one that is temporary one that is, can be correctable with medicine of surgery. The conductive hearing impairment can be congenital or acquired. Acquired hearing losses in children are more likely to be of the conductive type.

b. Sensory-neural Hearing Impairment: When the loss of hearing function is occurring due to defect or pathology in the inner ear or along the auditory nerve pathway from the inner ear to the brainstem then the loss is referred as sensory-neural hearing impairment. In a pure sensory neural hearing impairment, the sound conducting mechanism i.e. the outer and the middle ears are normal both structurally and functionally. Thus, in other words, sound is conducted properly to the fluid of inner ear but it cannot be analyzed or perceived normally.

This involves both loss of sensitivity as well as loss of understanding of speech poor or of speech discrimination. Sensory-neural hearing impairment can be congenital i.e. present at birth or can be developed in the late stage of life. This loss is irreversible or permanent and the only remedy is a suitable hearing aid. c. Mixed Hearing Impairment: In mixed hearing impairment, there is a damage, defect, defect, or pathology in both outer and middle ear as well as in inner

ear. A patient with mixed hearing loss exhibits symptoms of both conductive and sensory-neural hearing impairment.

In addition, a patient with 21-mixed hearing impairment usually shows some hearing loss by bone conduction but a greater hearing loss by air conduction. An elderly patient may sometimes show mixed hearing loss where conductive hearing loss occur because of middle ear defect while sensory-neural hearing impairment develop because of inner ear or auditory nerve defect due to aging. The treatment of mixed hearing impairment can vary from patient to patient and depend upon the conductive involvement. An otologist (ENT Specialist) usually decides the treatment of the mixed hearing impairment. The treatment of could be medical, surgical or use of hearing aid.

2.7.NATURE OF HEARING IMPAIRMENT

Based on nature, hearing impairment can be classified as Gradual Hearing impairment and Sudden Hearing Impairment.

a. **Gradual Hearing Impairment**: Gradual hearing impairment is also termed as progressive hearing loss. This refers to a slow deterioration of hearing sensitivity with time. This may be due to infection or hereditary disorders or aging. Conductive or mixed or sensory-neural hearing impairment can be gradual or progressive in nature.

b. **Sudden Hearing Impairment:** In Sudden hearing impairment, the patient overnight may suffer partial or complete hearing loss in either one or both ears. This hearing loss results due to onetime insult to the auditory system. Usually the damage to the auditory system results in a permanent hearing loss. Sudden hearing impairment is usually always of sensory-neural type.

2.8.DEGREE OF HEARING IMPAIRMENT

An important consideration of any hearing loss is the degree of impairment. The classification is done on the basis of the Pure Tone Average that is; the average of the hearing thresholds at 3 frequencies namely 500Hz, 1000Hz and 2000Hz. 22 On the basis of degree, hearing impairment can be classified as follows:

Degree of Hearing Impairment Average threshold level (dB HL)

-10 to 25 Normal hearing sensitivity

- 26 to 40 Mild

 41 to 55 Moderate 56 to 70 Moderately

- 71 to 90 Sever

-91 and above profound

Goodman (1965) gave the classification.

2.3   Causative factor

Base on causes, hearing loss be classified as Exogenous Hearing Impairment, Endogenous Hearing Impairment and Idiopathic Hearing Impairment.

 A. **Exogenous Hearing Impairment:** This retest to hearing loss caused by all factors other than heredity. These factors include: Prenatal causes (causes before birth), Natal causes (causes at the time of birth) and Postnatal causes (causes after birth)

b. **Endogenous Hearing Impairment**: This included only heredity as the causative factor for hearing loss. Hereditary hearing loss may be transmitted as a dominant or recessive characteristic.

 C. **Idiopathic Hearing Impairment**: This refers to hearing loss of an unknown pathology or cause that is; the causes of hearing loss is unknown.

 In the process of hearing, the sound wave transmitted from outer ear to brain neural through middle and inner ear. Any damage or blockage in this procedure leads to hearing impairment. The causes for hearing impairment is classified as prenatal (before birth), natal (during birth), and post-natal (after birth); and the types of hearing loss is categorized based on the basic factors such as age on set, 23 site of lesion, causal factors, nature of hearing loss and degree of hearing loss.

2.9.CHALLENGES ARISING DUE TO HEARING LOSS

 Hearing losing has indirect consequences on the development of language, academic performance and psychosocial interactions. Children with hearing loss face potential life-long communication barriers. Congenital hearing loss is a hearing loss present at birth. It can include

hereditary hearing loss or hearing loss due to other factors present either in utero (prenatal) or at the time of birth. Common Educational Needs of children with Hearing impairment are,

• Need of attitudinal change of others towards hearing impairment and education.

• Need for non-discrimination in the services, resources, facilities just to name these few.

• Need for appropriate educational set-up based on the degree or onset or type of hearing loss.
•Need for least restrictive environment for learning.

• Need for preserving and utilizing the residual hearing.

• Need for developing language skills for communication

• Need for adaptation of curriculum

• Need for ancillary services like speech training, hearing aid repairs, ear mound making, therapy, counseling just to name these few.

• Need for vocational training.

2.9.1. Problems faced by students with hearing impaired

● **Language Challenges:** Children with hearing impairment, especially the children with congenital hearing impairment start receiving linguistically retarded speech even before they were born. There is also a possibility of children to lose their hearing before they could learn to speak. These two types of children are called children with pre-lingual hearing impairment '. These children could see many things but they do not understand the full picture of the events, as they cannot hear.

● **Behavioral Challenges**: Hearing impairment is a hidden hearing impairment. The family members, including the mother and others who frequently handle the child do not suspect hearing impairment, as the child looks absolutely normal, smiling and playing like any other child. By the time, the child reaches the age of three or four years old, the child gains a substantial level of learning through the visual inputs but lags behind in language and speech. Therefore, the child cannot understand what people say and is not able to communicate his needs and ideas. This lack of communication by the child results in parents and people misunderstanding the child's behavior. The child is usually then labelled as hyperactive 'or disobedient '. This, in fact, builds frustration in the child and he starts throwing temper tantrums at every possible situation. This forms the foundation for behavior problems in children with hearing impairment.

● **Self-confidence and self-esteem challenges**: There are several factors among children with hearing impairment like degree or type of hearing loss, intelligence level, age of intervention, type and use of amplification device, education support etc. which have a very strong impact on their achievement level. Except the children with mild or moderate hearing impairment, not all others develop language and speech skills without special support. Since these children do not develop oral language skills, they are not able to communicate orally with the hearing community. They are often not able to get integrated even with their own parents 28 and siblings. This adversely affects their self-confidence and self-esteem.

● **Intervention Challenges**: Children with hearing issues get enrolled into schools either because the school is nearest to their hometown or because the parents are not aware of any other institutions. The choice is never made depending on the potentials in the children. Therefore, it is common to find children of different hearing loss, intelligence, abilities,

additional hearing impairment etc. in a single classroom. As the children are of mixed category, they do not get the maximum educational support that is required.

• **Emotional and social development Challenges**: Due to the non-availability of special schools in every part of the country, quiet a good number of children are forced to enroll in residential schools for children with hearing impairment. These children visit their home only during vacations which in most cases, once in a year. This can have an adverse effect on the children's emotional and social development.

Due to hidden nature, hearing impairment often go unnoticed resulting in ignorance of the society towards educational needs and social participation of children with hearing impairment. Society viewed hearing impairment as a manifestation of mysterious or ruthless fate or displeasure of God. The indifferent attitude kept children with hearing impairment away from education. However, the necessity of education of any individual holds true for children with hearing impairment also.

2.9.2. Characteristics of people having hearing impairment

Hearing impairment is a handicapping condition that affects the normal functioning of the child. The condition impedes their educational achievement no matter the degree of impairment. Ernbrey (1971) who studies the effect of a mild hearing loss on educational achievement found out that the mild hearing-impaired subject did not achieve at the same level as their normal*hearing children. The observable signs by which the hearing impaired could be identified include the following:

- Articulation of certain speech sounds correctly often eludes the child.

- The child finds it difficult to write down dictations.

- The individual fails to respond to or confuse verbal directions.

- Complains of a buzzing or ringing sound in the ear.

 - Fails to respond when called from a distance.

- Complains of discharge from the ears

 - Speaks in an abnormally low, high or loud voice.

- The child responds only when he or she sees the speakers face or gesture. The individual has frequent colds and hay fever.

- The child bends forward to hear or understand what is said to him.

-   Asks the speaker to repeat sentences or words.

-   When called from a distance the child fails to respond.

-   Gives wrong answers to simple questions.

-   Often times the child dodges situations that may require him listen or talk to people.

-   The individual is insensitive to sound.

- Rubs the ears frequently or turning to one direction as if trying to locate a sound.

- The individual has frequent earaches and running ears.

- The child often screams to express pleasure, annoyance or need.

- The child is withdrawn and does not mingle readily with classmates and neighbours.

2.10.   STRATEGIES AND PROGRAMMES FOR EDUCATING THE HEARING IMPAIRED

It is often difficult to mainstream the hearing impaired but when they are mainstreamed; such students need sign language interpreters in the classroom as well as supplementary resources assistance. Teaching the hearing impaired will definitely pose a problem to the teacher because deafness being a serious sensory deprivation is noted to hinder the afflicted person's development generally and their academic achievement in particular. Thus, Alade and Abosi (1991) found out that hearing impairment has adverse effects on academic achievement but the magnitude of such adverse effects depends on the degree of hearing loss. For effective teaching and learning therefore, the hearing impaired needs appropriate methods that could facilitate the acquisition of language as well as social and emotional adjustment. These methods include:

2.10.1. Auditory method

This method involves teaching hearing impaired children   to   recognize   sounds.   It emphasizes   the development of listening skills. It is a situation whereby the hearing impaired

is constantly exposed to sound and language in their environment together with the provision of some kind of hearing aids for amplification.

2.10.2. The oral method

The oral method with cues provided with hand shapes and positions. These are linked inseparably with speech to assist lip reading. As the many words in English language look the same, the cues cannot stand-alone and are intended to assist early language and speech development.

Children use hearing with lip reading and speech to communicate orally. The Maternal-Reflective method is based on this approach. In the MRM, the spoken word is seized from the child and reinforces on writing, class books made through the written form. There is strong emphasis and made for the children etc. in order that they can reflect on language learnt.

Here gestures and signs are not allowed. The oral method rather uses speech, lip reading and auditory training to teach. Stressing assisting the hearing impaired to acquire communication skills and de-emphasizing gestures and signs is necessary and central in the education of hearing impaired. Special educators also place emphasis in the development of early meaningful communication in the management of hearing impaired individuals.

2.10.3. Sign language

Deaf people preferred Sign Language method of communication, for the following reasons,

• Lip reading is tiring and confusing, many words look the same and people have different lip patterns

• Very few pre lingual profoundly deaf people learn to speak clearly

• Signs provide a visual reinforcement to the spoken word

• The emphasis is not only on the sign, but the location, classifier, hand shape, movement, orientation and facial expression

• Signs are the language of the eye Sign language is gaining more and more recognition as an official language for the deaf community. French Sign Language (FSL), Britain Sign Language (BSL), American Sign Language (ASL), Australian Sign Language (AUSLAN) and Indian Sign Language just to name these flews. Are the different types of sign languages?

• Finger Spelling It is using hand shapes to represent sounds (phonemes) or alphabet (letters) of speech. It can be said that instead of writing on paper one is writing in the air with hand shapes for letters. One should know the words and their spellings to be able to use finger

spelling. In India two-handed BSL is using by many deaf children and adults. It is easy to do fingerspelling than to reading and understanding it.

2.10.4. Rochester method

This method emphasizes reading and writing. Rochester method combines the oral method and finger spelling or writing in the air technique.

2.10.5. Neo-orals

The central task of this method is to give tools of communication especially expressive communication at an early to change youngster who are passive into being active and therefore develop an initiative in learning. The method, like Rochester method makes use of finger spelling. If the young deaf child masters finger spelling, the language mastery process becomes easy like that of the hard-of-hearing child.

2.10.6. Total Communication

Total Communication, a term coined by Roy Holcomb in 1967, in essence is a Philosophy/ approach, and not a method. It accepts the child and his handicap and strives to meet the individual on his terms. The total communication approach uses form of input available to present vocabulary, complete sentences and grammatical concepts to deaf children. It involves oral skills, signs, finger spelling, cueing, auditory training, reading, writing and any other form of communication, which stimulates a child to develop conceptual thinking, acquire language and encourages him to express thoughts in correct language order. The ultimate goal of an education program for the hearing impaired should be good communication, social skills and the development of an educational background that will allow the child to become independent and achieve his total potential. Communication is the act to exchange the ideas, information. It may be verbal (linguistic, language oriented) or non-verbal (non-linguistic). The two communication approaches are oral methods, and manual methods. The total communication approach, which consists the various communication approaches, is very much useful for the children with hearing impairment.

2.10.7. Simultaneous total communication method

This approach involves using oral communication audition, finger spelling, signs, gestures, dramatization reading, pencil and pen writing and drawing. All the sense modalities are used in this method. Idowu (2004) writing on what the teacher should do to educate the hearing impaired or the deaf stated the following:

1. Learning by deaf children is visually oriented. What they can see is important to them and not what they are supposed to hear. Therefore, the teacher should therefore make use of the black board, pictures, diagrams etc.

2. Making use of concrete objects creates and sustains interest in the lesson.

3. The concept of over-learning is very important in working with deaf children. A single idea or concept should be presented in a variety of ways, and by using more than one sense modality.

4. Every subject on the time - table could provide an opportunity for teaching language, or some form of communication skills. He added that teachers should seek co-operation of the home of the child and ensure that he or she is accepted, loved and encouraged by his or her parents or guardians.

2.11. DEFINITION OF HEARING LOSS AND ASSOCIATED TERMINOLOGIES

The description of a person's hearing loss is often based on their level of hearing at different frequencies as measured by an audiologist. Hearing loss levels are often broadly described as Mild, Moderate, Severe and Profound. Generalizations based on these single word descriptors often do not accurately predict an individual's skills across a variety of tasks such as speech, language, listening, communication mode, just to name these few. The terminology deaf and hard of hearing used to describe individuals with hearing loss is based on a medical model and definition of hearing loss levels.

How an individual views him or herself, however, can depend on self-identity and cultural values related to or separate from the status of their hearing. For example, a person who has a level of hearing that may be medically described as hard of hearing (a person diagnosed with a moderate‖ or severe‖ hearing loss) may actually identify him or herself as Deaf based on their preferred communication mode, cultural values, and self-identity. Regardless of definition, many deaf and hard of hearing people do not support the use of negative descriptors such as hearing loss, impairment, or hearing impairment. A basic description that attempts to address both medical and cultural perspectives of the differences between deaf and hard of hearing will be provided.

2.11.1. Deafness

This term indicates a hearing loss so severe that processing of linguistic information through hearing alone, with or without hearing aids, is severely limited. Students with cochlear implants are considered physically deaf even though they may function as hard of hearing. Deafness is not solely dependent on ability to speak or need to use sign language.

2.11.2. Hard of Hearing

This term describes a degree of hearing loss that allows the student to process acoustic information necessary for auditory-verbal communication, with the assistance of hearing aids or assistive listening devices (ALD) when needed. Yet the amount of hearing loss is not an accurate predictor of how one function audit orally. The audio logic evaluation does not reliably predict the student's ability to hear with comprehension. Some hard of hearing students function very well with hearing aids and ALDs while some may require sign language to understand classroom instruction or conversation, especially in noisy situations. Professionals in the field of special education are using different terms such as impairment, hearing impairment and handicap. These terms are used to represent children with defect who needs special assistance or rehabilitation. However, these terms have different philosophical meaning and imply different applications. The following is the WHO (1980) definition of hearing impairment, impairment and handicap.

2.11.3. Impairment

It is defined as any damage or weakening of physiological and anatomical function of structure. Here impairment concerns with abnormality of the body, structures and appearance with organ or system functions, resulting from any cause. In principle, impairment represents disturbance at the level of organ, it indicates the extent of damage to the organ or limb. In case of hearing, impairment means the type and extent of damage to the hearing with the degree of loss. This can be measured clinically.

2.11.4. Hearing impairment

According to WHO, a person is said to have hearing loss if they are not able to hear as well as someone with normal hearing, meaning hearing thresholds of 20 dB or better in ears. It can be mild, moderate, moderately severe, severe or profound and can affect one or both ears.

W.H.O International Classification-1998

Puts forth, Impairment refers to limitation in organ level functions. Hearing impairment refers to personal level limitations Handicap refers to limitation in social ability or relation between individual and the society. Definitions given by the RPwD Act, 2016 as per the Rights of persons with hearing impairment, 2016 the definitions of deaf, hard of hearing and speech and language hearing impairment‖ are as follows: deaf means persons having 70DB hearing loss in speech frequencies in both ears, hard of hearing‖ means person having 60DB to 70 DB hearing loss in speech frequencies in both ears speech and language hearing impairment means a permanent hearing impairment arising out of conditions such as laryngectomy or aphasia affecting one or more components of speech and language due to organic or neurological causes.

Missing the hearing ability is called the hearing impairment. There is difference among the terminologies commonly used for this state of hearing capacity. Deafness, hard of hearing, impairment, hearing impairment, and handicap and so.

2.11.5. Handicap

Handicap is a disadvantage for a given individual, resulting from impairment or a hearing impairment that limits or prevents the fulfillment of a role that is normal depending on age, sex and social and cultural factors for that individual. The WHO defines that handicap is concerned with the disadvantageous experiences of hearing impairment. Handicap, thus reflects interaction with adoption to the human surround. Handicap is the social aspect of hearing impairment.

CHAPTER THREE
RESEARCH METHODOLOGY

3. INTRODUCTION

This chapter contains the methods that will be used in the study. It focuses on research design, area of study, population of study, sampling technique, research instruments, data collection procedures, data analysis and the recapitulative table.

3.1.RESEARCH DESIGN

Mouton (2001) and Gay, Mills and Airasian (2009) refer to a research design as a set of guidelines and instructions to be followed in addressing the research problem. A research design is an overall plan to be followed by the researcher to answer the research questions during the data collection, data analysis and result discussions (Gay, Mills and Airasian, 2009). Mouton (2001) is of the opinion that the research design enables the researcher to anticipate what the appropriate research decision should be to maximize the validity of the eventual results.

The research method used in this work is the quantitative method of research. A descriptive design method was used, which is a method of collecting information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2004). This design aimed at obtaining pertinent and precise information concerning the status of a phenomenon and wherever possible to draw a valid general conclusion from the facts discovered (Gay 1976, Kombo & Tromp 2006). Likewise, it mainly sought to obtain information that describes the existing phenomena by asking individuals about their perceptions, attitudes, or values; it is therefore useful in describing the conditions or relations that exist between variables (Cohen, Manion & Morrison, 2000).

The researcher adopted a survey research method as the study attempted to gather opinions of the school teachers on the state of pedagogy on the social interactions of hearing impaired students in their institutions. The survey was used as it collects data to answer questions about people's opinion on a topic or issues and allows for generalization of results. A descriptive survey design was chosen because the researcher sought to teacher's pedagogic competence as a determinant of social interaction of hearing impairment statistics and themes were used to analyse data that were collected from the selected sample through questionnaire and observations.

3.2.AREA OF STUDY

Yaoundé was founded in 1889 when the Germans opened a military post, on a hill in the Ewondo land. Yaoundé developed gradually because of the activities of German merchants who came to trade in ivory. It was occupied by Belgian troops during the First World War before being placed under French protectorate. Its growth was very slow in the beginning due to the rural exodus to Douala and it was exacerbated in 1957 with the crisis in the cocoa sector and internal problems. Yaoundé town was implanted within a chain of mountains, dominated by Mount Febe, which stands 1060 meters high. The different quarters are dispersed in a haphazard manner, leaving a greater part of the town for the cultivation of food crops and for vegetation. The average temperature in Yaoundé is 22°C.

As the headquarters of the Centre province, the town of Yaoundé has a surface area of 68.953 km2 covering 10 Divisions and harbouring a population of about 2.272.259 inhabitants with an average density of 32.96 inhabitants /km2 (CIPRE, 2002). By law N° 87-15 of July 1987 of the Cameroon government, Yaoundé was transformed from a rural to an urban council. The changes that occurred from "community" to "council" equally transformed and transferred duties and powers, shifting them from the Mayor to the Government Delegate, appointed by the presidency. The constitutional law of January 18th 1996 modified the system of the urban council, which remained under the Government Delegate, but created six new urban councils (Yaoundé I, II, III, IV, V, VI and VII) endowed with elected Municipal councillors.

Yaoundé is a tertiary town with very few industries such as breweries, sawmills, workshops, tobacco, paper mill, mechanics, and construction materials. In terms of structures that rehabilitate persons with hearing impairment, there are many amongst which we can cite the following: - ESEDA (Specialise school for the children who are deaf; - PROHANDICAM (Service that promotes persons with hearing impairment in Cameroon); - L'Externat Medico Pédagogique "Colombes"; - Bobine d'Or; - National centre for the rehabilitation of persons with hearing impairment; - Workshop for the protection of persons with hearing impairment; - ANAC pre cooperatives in Mfoundi, Mbam, Nyong, Mfoumou and Lekie .

The Mfoundi division Yaoundé will be the area where this study will be carried out and particularly Yaoundé I. The researcher selected this area because there are many secondary schools in the area ranging from government to private schools practicing inclusive education with many Hearing impaired students. In addition, Yaoundé is where the researcher has studied and lived throughout her lifetime. This permits the researcher to have a mastery of roads and

places around the area. Thus, the researcher will have no problem of movement around the study area.

The Adventiste College of Yaoundé is created by authorization no 323/JL/7/MONDUD/DEP/SCAFS of August 11, 1988 on the operating authorization of new school activities or the private general and technical secondary education training from the year 1988/1989. During his years, this decree recognized the college under the name of "Adventist private college of the 7th day. The establishment of the Adventist College of Yaoundé (Cay) is motivated by the missionary principles of the Adventist Church by the need for Educational structures by supervision of youth. At the base (1988/2000) The Cay is in its beginnings and does not yet record a great workforce given the narrowness of the latter in terms of infrastructure.

We thus recorded the Effective of around 1560 students per year, the first buildings were made of provisional materials, its position in terms of rivalry with the other reference establishments of the place remains negligible like the high school of Nkol-eton and the college of retirement, at that time Mr. Pokam Ambroise was at the head of this establishments and there remains an emblematic figure due to the improvement he has brought to college during his years of service.

Everything is transformed for the Cay when he receives a Subsidy of 50 million FCFA, the reputation of the college will thus exceed borders to the point of welcoming foreign students from various countries within it. In 2018 under the direction of the main Mbana Marin, the infrastructure is modernized more, 2 campuses now high, the frame which once was narrow to accommodate an additional number of learners, the workforce exploding so that the admission method in this structure becomes on competition and for certain cases on file study.

All the same, the structure becomes inclusive and welcomes learners suffering from any hearing impairment. We have thus noted since the creation of the six main college, which have followed one another. Since January 2020, the Adventist College has innovated with an authorization in the English -speaking section and 2ND cycle by the decree no 07/20/Minesec/SG/Desg/SDSGPESG/SSGEPSG of January 22, 2020 and another authorization to expand in section Economic and School Sciences 2nd cycle by decree No 07/20/Minesec/SG/Desg/SDSGEPESG/SSGEPSG of January 22, 2020.

3.3. POPULATION OF STUDY

Locke, Spirduso and Silverman (2000) and Belli (2008) define the population as the set of all elements or the large group to which a researcher wants to generalize his or her research results.

NDIE (2006) defies population as an infinite set of elements defined in advance on which the results of study are applied it is also an assembly of individuals, who possess the same characteristics, live and function in the same locality.

The study was conducted only in Adventiste secondary school that runs an inclusive education programme for the hearing impairment. The population of this study comprises of all the teachers of Adventiste College

3.3.1. Targeted population

Target population refers to all members of a real or hypothetical set of people, events or objects to which a researcher wishes to generate results from the study (Silverman, 2005). Amin (2005:235) says that "This target, sometimes called the parent population may not be accessible to the researcher" In this study, only the teachers who teach the hearing impaired students of Adventist College are the targeted population they were about 120 of them in all.

3.3.2. Accessible population.

The accessible population was the population within the reach of the researcher. The accessible population under study was therefore 80 teachers of the Hearing impaired students from Adventist secondary school in the Mfoundi division in Yaoundé 1.

3.4. SAMPLE AND SAMPLING TECHNIQUE

3.4.1. Simple size

A sample is a portion of the population whose results can be generalized to the entire population. Sampling therefore is a process of extracting a portion of the population from which generalization to the population can be made. In research, the sample should be a representative of the population. This means that as much as possible, most characteristics of the population should be represented in the sample selected. Characteristics may include gender, level of education, economic background, religious affiliations and many others dictated upon by the nature of the study (Amin, 2005:236-237).

Luma et al (1999:46) holds that if samples are properly selected, they can provide meaningful and accurate information or conclusion about the population. They further indicated that, the sample size is determined by the amount of heterogeneity of the variables in the population and that for a population in which most people will answer a question in a particular way, a small sample will do. The sample size of this study consisted of all the teachers who teach Hearing impaired students of this chosen school, which is Adventist College.

3.4.2. Sampling Technique

To select teachers, classrooms and schools suitable for provision of relevant information, purposeful sampling was used in this study. Purposeful sampling attempts to select the respondents based on the certain characteristics or criteria (Johnson & Christensen, 2012). Purposeful sampling, is a common type of population sampling in Case study design, it provides individuals with rich and relevant information for the study (Gall, Gall & Borg, 2007; Gay, Mills & Airasian, 2009). Being a case study, purposeful sampling was then used to obtain teachers for provision of detailed information about their teaching for students with hearing impairment in inclusive classrooms and the condition of interactions of these students in the school milieu. Schools and teachers were selected based on criteria.

One of these criteria was, a school, which practices inclusive education with teachers teaching in an inclusive classroom having students with mostly hearing impairment and few visual impairment. It was therefore important that choosing schools which runs an inclusive program be chosen, teaching a class having students with hearing impairment is selected in order to see how these students are included in the lessons. The second criterion was to have an experienced teachers teaching in these inclusive school.

I assumed these teachers had gone through lots of challenges teaching in inclusive classrooms, and therefore, they had enough time to polish their teaching through professional development, and therefore, improving their teaching practices in inclusive settings. Purposive sampling technique was used to select the required number of teachers since they were the ones who taught, interacted, and assessed those students with hearing impairment. The selection of students and teachers was purposively selected. This implies that the researcher asked students with hearing impairment and asked the teachers who taught these students.

3.5. INSTRUMENTS OF DATA COLLECTION

Johnson & Christensen (2012) points out that, Case study researchers advocate the use of more than one methods of data collection. Therefore, this study used two methods of collecting data, which are questionnaire, and an observation method. Below is the detailed description of each method.

3.5.1. Questionnaire

A questionnaire is a structured tool for collecting secondary data in a study (Locke, et al., 2000). It contains a series of structured and open-ended questions for which the participant provides answers. A questionnaire provides a chance to collect a large amount of information from a

larger number of people in a short period. It is believed to reduce human bias and it is less intrusive (Gay et al., 2009, Locke ET al.2000). Hence, a questionnaire was used to collect data in this study.

The researcher used this method, which is questionnaires to collect data. The researcher to gather information from the teachers constructed closed ended questions questionnaires. The questionnaires consisted of section A, B and C Section A consisted of Bio-data information of the respondents, while section B consisted of question items about adequacy of teachers training teaching methods, assessment methods, and the learning environment while section C concerned the dependent variable that is Inclusive Education. Here the questions consisted mostly of closed questions.

The first section or section "A" of the questionnaire dealt with the biographical detail of the respondents that include, gender, age, teaching experience and the educational qualifications of the respondents, the second section was based on questions related to teacher's pedagogic competence as a determinant to the social interactions of hearing impairment students in the Adventist secondary school in Yaoundé 1. The third section carried questions on inclusive education.

In summary, the questionnaire with its various parts was designed and administered to assess the perceptions of participants regarding the impact of teachers' pedagogic competence on social interactions of hearing impaired students in Adventiste secondary school. All the questions reflected the hypotheses to be tested. The questions were closed ended with scale value of strongly agree, Agree, Disagree, strongly disagree.

3.6. VALIDATION OF INSTRUMENTS
This was carried out in two phases.

3.6.1. Phase validity
Validity is the degree to which a test measures what it is supposed to measure (Kothari, 2005). Content validity was tested to ascertain whether the items in the questionnaires were suitable for their task. Questions, which brought confusion or misunderstanding to the respondents, were identified and modified to ensure clarity of information in the questionnaires (Gorard, 2001). Difficult questions were reframed using appropriate language, which could easily be understood by the respondents. Consultation with the experts in the area of special needs education was done and the instruments were modified and redesigned accordingly to achieve the intended task during the main study (Gorard, 2008). Validity narrates the ability of the

respondents to answer the questions listed on the data collection instrument. The respondents in this study were the teachers who teach the Hearing impaired students and who had the ability to answer the questionnaire. At the same time, the researcher took care to choose words to ensure the clarity of the instruments and relevance of this study to ensure that the validity and consistency of data collection tools were appropriate for this study.

To ensure further validity for the instrument used for the study, the questionnaires were submitted firstly to an English teacher to check for grammatical errors. In addition, later, it was further submitted to the supervisor and statistician for further scrutiny. After due corrections, the supervisor and the statistician respectively confirmed the representativeness and relevance of the items found in the questionnaire in relation to the scope of the investigation. The above procedures ensured face and content validity of the instrument.

3.6.2. Reliability

According to Amin (2005:293), "Reliability is dependability or trustworthiness and in the context of measuring instrument, it is the degree to which the instrument measures whatever it is measuring". An instrument is said to be reliable if it consistently yields similar results when re-tested with similar subjects (Mugenda & Mugenda, 2003; Orodho, 2004). The reliability of the instruments for the study was measured using test- retest method. The questionnaires were given to the group selected for piloting. The respondent filled the questionnaires and their responses were scored manually.

Usage of observations was another way of strengthening internal validity and reliability of the data collected for the study. Observation for instance brought that specific information from the sight, sight information seems to be very authentic and true because it is direct information gotten from the field. While questionnaires can be conducted without direct observation of the social setting, "observations demand to some extent the physical displacement of the social context where the study is to be conducted" (Thomas 2009, p. 60).

In order to ensure that the questionnaire for this study was reliable and measured what it was supposed to measure, the researcher administered twenty (20) questionnaires to teachers, who had the same characteristic as the sample population. This enabled the researcher to ensure that the items on the questionnaire were related to the study.

Data analysis in quantitative studies begins immediately after the first data collection process to discover if there is any information that is necessary, missing. This helps the researcher to review and restructure the tools for data collection in order to obtain information that mirror the research questions and develop pa deeper understanding of the phenomenon under study.

Usage of observations during data collection was another way of strengthening internal validity and reliability of the data collected for the study. Observation for instance brought on board that sight specific information sifting between what people say and what they do.

Spearman Correlation

Spearman Correlation is expressed as:

$$r_s = 1 - \frac{6\Sigma D^2}{n(n^2 - 1)}$$

Where:

$\boldsymbol{\Sigma}$ = sum

D is the difference between the ranks of X and the corresponding ranks of Y

n= the number of paired ranks

3.7. ETHICAL CONSIDERATION

McMillan and Schumacher (2001:196) defined research ethics as dealing with beliefs about what is right or wrong, proper or improper, good or bad. According to Leedy (1993:128), ethics refer to simple considerations of fairness, honesty, openness of intents, disclosure of methods, the ends for which the research is executed, a respect for the integrity of the individual, the obligation of the researcher to guarantee unequivocally individual privacy and an informed willingness on the part of the subject to participate voluntarily in the research activity.

Participants were informed in advance of their right of choice to participate and they were given time to make such a decision. The researcher gave the respondents an assurance that data will be kept confidential and anonymous. Permission to use available information for this research was obtained from the three schools, which practice inclusive education. The researcher introduced herself, the purpose of the study and pleaded for cooperation in completing the questionnaires. The researcher pinpointed on voluntary participation and promised to treat their responses with confidentiality. In summary, the researcher did everything possible to address issues of informed consent and confidentiality.

Lastly, Consent to conduct this study the researcher received permission from the dean of the faculty of Education in the University of Yaoundé 1 who issued an authorization to do research. After the researcher received the letter from the place just stated, he forwarded a letter to school principals and teachers requesting their consent for data collection. This was done to ensure that the data collection process is legal.

3.8. DATA COLLECTION PROCEDURE

A letter was written to request permission from the school principal and teachers to have access to their schools. All letters outlined the purpose and intentions of the study. This was done in consistence with Cohen et al., (2007) who maintained that access and acceptance are important aspects of the data collection as they offer the researcher opportunities to show his or her credentials and ethical considerations for the intended research.

After refining the research instrument, the questionnaires were administered to participants. To ensure a high return, the researcher personally administered the questionnaires. The researcher administered the questionnaire herself and explained to the teachers the importance of giving accurate information, which will help in the improvement of their teaching profession. The questionnaires were collected immediately after been filled. This gave them enough time to respond to the questionnaires. In the meantime, the researcher took out some time to observer the various details of the school in their effort to provide for inclusive education.

Table 1 : Indicating return of questionnaire by school

School	Number distributed	Number returned	Number rejected
The Adventist College	80	80	0

3.9. STATISTICAL ANALYSES TOOL

The Statistical Package for Social Science (SPSS) computer software was used to analyse the data gotten from the field of study. On the responses given by the teachers of Hearing impaired students. These descriptive statistics allow for easy and quick interpretation of large data as well as understanding (Belli, 2008; Gay et al., 2009). The data analysis was done using descriptive statistics such as frequencies, mean, percentage and standard deviation was used to identify general characteristics of the participants. For easy interpretation, data is presented in tables and figures. Responses from observations were manually transcribed and studied carefully, organized into categories and synthesized to generate meaningful themes and

reoccurring patterns. The emerged themes are discussed with relevant quotations from participants and relevant literature is cited to support the findings of this study.

3.10.SYNOPTIC TABLE

MAIN OBJECTIVE	RH	SRH	IV	INDICATORS	DV	INDICATORS	MEASURING SCALE	DATA ANALYSIS TOOL
To find out the effect of teachers pedagogic competence on Social interaction hearing impaired students	teachers pedagogic competence have effects on Social interaction hearing impaired students	SH1: teacher's qualification has effects on Social interaction of hearing impaired students	teachers pedagogic competence	-level of education -grade -understanding lesson taught -good quality interaction with students	Social interaction hearing impaired students	• interaction with peers without special needs • adapted learning method • suitable assessments methods • accessible learning environment • positive attitudes towards students with Hearing impairment • access teaching materials by students with hearing impairment • adaptation of learning resources and examinations	• Strongly agree • Agree • Strongly disagree • Disagree	The likert scale (spearman correlation)
		SH2: Teaching methods have effects on Social interaction of sensory impaired students		-teaching styles -teaching methods -teaching and learning materials -understanding lessons taught			• Strongly agree • Agree • Strongly disagree • Disagree	
		SH3: Assessment methods have effects on Social interaction of hearing impaired students		-kind of assignment -How often -good school performance -strategies of assessment -extra time in exam			• Strongly agree • Agree • Strongly disagree • Disagree	
		SH4:The classroom have effects on Social interaction of hearing impaired students		-accessible classroom -spacing -library -comfort -spacing			• Strongly agree • Agree • Strongly disagree • Disagree	

CHAPTER FOUR
PRESENTATION AND ANALYSIS OF DATA

4. INTRODUCTION

In this chapter, the researcher will present the data collected from the field and later analyse it. This chapter will be divided into two main parts. In the first part, the data collected from the field will be presented and analysed; the second hypotheses stated were tested.

4.1. DATA PRESENTATION AND ANALYSIS

4.1.1. Quantitative data presentation

Table 2: Presentation of the respondents

Student	Gender	Ages	Class
Student A	Male	12	Form 1
Student B	Female	13	Form 3
Student C	Male	13	Form 2
Student D	Male	14	Form 4

Source: 2022 field survey

Our research focused on four (04) hearing-impaired learners. The aim was to conduct directive interviews with these learners in order to gain a better understanding of the impact of teaching methods, tools used and teachers' technical skills on their social interactions. To do this, we focused on four (04) learners, three (03) of whom were male and one of whom was female.

In this section, the data collected from the field was analysed, summarized and presented. After which a brief interpretation of the data was given. This section begins with the socio-demographic information and later data from the various sections of the research instruments will be presented and interpreted. The researcher made use of the descriptive and influential data analysis by employing the spearman index correlation the mean and standard variation.

4.1.2. Analysis of personal information

Table 3 : Distribution of teachers according to gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	56	70,0	70,0	70,0
	Male	24	30,0	30,0	100,0
	Total	80	100,0	100,0	

The result above shows the sample collected from the field on gender. It can be observed from the table that majority of the teachers are female. Out of 80 teachers 56 our female, this represents 70.0% of the total sample. 24 out of 80 were male teacher, which represents 30.0%, represented in a chart as follows. It means that we have more female than male teachers do in our secondary school.

Table 4 : Distribution of teachers according to Age range?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	25-30	18	22,5	22,5	22,5
	31-35	30	37,5	37,5	60,0
	36-40	12	15,0	15,0	75,0
	41- 45	17	21,3	21,3	96,3
	46- 50	3	3,8	3,8	100,0
	Total	80	100,0	100,0	

According to the data collected from respondents, 18 out of 80 are teachers below 25-30, which represent 22.5%. 30 out of 80 are teachers of the age range 31-35 which represents 37.5%. 12 out of 80 are teachers of the age range of 36-40 which represents 15.0% .3 out of 80 are teachers of the age range 46-50 which represents 3.0%. It means we have more teachers of the age range of 31-35.

Table 5: Distribution of teachers according to highest academic level?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A/L	13	16,3	16,3	16,3
	Grade 1	7	8,8	8,8	25,0
	First Degree	60	75,0	75,0	100,0
	Total	80	100,0	100,0	

From the data, collected 13 out of 80 are level teachers, which gives the percentage of 16.3%. Seven out of 80 are grade 1 teachers, which give the percentage of 8.8% while 60 out of 80 are first-degree teachers, which give the percentage of 75.0% it, means that most of the teachers are first-degree teacher.

4.1.3. ANALYSIS OF THE INDEPENDENT VARIABLE

Table 6 : Distribution of teachers according to have you undergone any training on special need education?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongle agree	24	30,0	30,0	30,0
	Agree	27	33,8	33,8	63,8
	Disagree	29	36,3	36,3	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 24 out of 80 strongly agree that they have undergone any training on special need education given a percentage of 30.0% .27 out of 80 teachers agree that they have undergone any training on special need education giving a percentage of 27.0%. 29 out of 80 teachers disagree that they have undergone any training on special need given a percentage of 36.3%. It means the majority of teachers disagree that they have undergone any training on special need.

Table 7: Distribution of teachers according to do you think it is possible to teach learners with hearing impairment in an inclusive class?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	24	30,0	30,0	30,0
	Agree	1	1,3	1,3	31,3
	Disagree	35	43,8	43,8	75,0
	Strongly Disagree	20	25,0	25,0	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 24 out of 80 strongly agree that they think it is possible to teach learners with hearing impairment in an inclusive class given a percentage of 30.0% .1 out of 80 teachers agree that they think it is possible to teach learners with hearing impairment in an inclusive class giving a percentage of 1.3% while 35 out of 80 teachers disagree that they think it is possible to teach learners with hearing impairment in an inclusive class given a percentage of 43.8%. 20 out of 80 teachers strongly disagree that they think it is possible to teach learners with hearing impairment in an inclusive class given a percentage of 25.0%. It means the majority of teachers disagree that they think it is possible to teach learners with hearing impairment in an inclusive class.

Table 8 : Distribution of teachers according to do you encounter difficulties when interacting or teaching students with hearing impairment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	46	57,5	57,5	57,5
	Agree	9	11,3	11,3	68,8
	Disagree	22	27,5	27,5	96,3
	Strongly Disagree	3	3,8	3,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 46 out of 80 strongly agree that they encounter difficulties when interacting or teaching students with hearing impairment given a percentage of 57.5% .9 out of 80 teachers agree that they encounter difficulties when interacting or teaching students with hearing impairment giving a percentage of 11.3% while 22 out of 80 teachers disagree that they encounter difficulties when interacting or teaching students with hearing impairment given a percentage of 27.5%. Three out of 80 teachers strongly disagree that they encounter

difficulties when interacting or teaching students with hearing impairment given a percentage of 3.8%. It means the majority of teachers agree that that they encounter difficulties when interacting or teaching students with hearing impairment.

Table 9: Distribution of teachers according to do you think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	36	45,0	45,0	45,0
	Agree	42	52,5	52,5	97,5
	Strongly Disagree	2	2,5	2,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 35 out of 80 strongly agree that they think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students given a percentage of 45.0% .42 out of 80 teachers agree that they think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students giving a percentage of 52.5% while 2 out of 80 teachers strongly disagree that they think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students given a percentage of 2.5%. It means the majority of teachers agree that that they think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students

Table 10: Distribution of teachers according to do you make use of different teaching methods during lectures in an inclusive classroom.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	16	20,0	20,0	20,0
	Agree	19	23,8	23,8	43,8
	Disagree	38	47,5	47,5	91,3
	Strongly Disagree	7	8,8	8,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 16 out of 80 strongly agree that they make use of different teaching methods during lectures in an inclusive classroom given a percentage of 20.0% .19 out of 80 teachers agree that that they make use of different teaching methods during lectures in an inclusive classroom giving a percentage of 23.8% while 38 out of 80 teachers strongly disagree

that they make use of different teaching methods during lectures in an inclusive classroom given a percentage of 47.5%. Seven out of 80 teachers strongly disagree that they make use of different teaching methods during lectures in an inclusive classroom given a percentage of 8.8%. It means the majority of teachers disagree that that they make use of different teaching methods during lectures in an inclusive classroom

Table 11: Distribution of teachers according to do you think teaching methods are appropriate for students with hearing impairment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	17	21,3	21,3	21,3
	Agree	28	35,0	35,0	56,3
	Strongly Disagree	35	43,8	43,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 17 out of 80 strongly agree that they think their teaching methods are appropriate for students with hearing impairment given a percentage of 21.3% .28 out of 80 teachers agree that they think their teaching methods are appropriate for students with hearing impairment giving a percentage of 35.0% while 35 out of 80 teachers strongly disagree that think their teaching methods are appropriate for students with hearing impairment given a percentage of 43.8%. It means the majority of 63,8 percent of teachers strongly disagree that they think their teaching methods are appropriate for students with hearing impairment.

Table 12: Distribution of teachers according do you adapt teaching and learning materials to suit students with hearing impairment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	58	72,5	72,5	72,5
	Agree	9	11,3	11,3	83,8
	Disagree	8	10,0	10,0	93,8
	Strongly Disagree	5	6,3	6,3	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 58 out of 80 strongly agree that they adapt teaching and learning materials to suit students with hearing impairment given a percentage of 72.5% .9 out of 80 teachers agree that adapt teaching and learning materials to suit students with hearing impairment giving a percentage of 11.3% while 8 out of 80 teachers disagree that they adapt

teaching and learning materials to suit students with hearing impairment given a percentage of 10.0%. Five out of 80 teachers disagree that they adapt teaching and learning materials to suit students with hearing impairment given a percentage of 10.0%. It means the majority of teachers agree that that they think it is necessary to organize seminars for teachers to learn how to handle an inclusive classroom with hearing impaired.

Table 13: Distribution of teachers according to do you give feedback to the hearing impaired students after lectures?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	27	33,8	33,8	33,8
	Agree	19	23,8	23,8	57,5
	Disagree	23	28,8	28,8	86,3
	Strongly Disagree	11	13,8	13,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 27 out of 80 strongly agree that they give feedback to the hearing impaired students after lectures given a percentage of 33.8% .19 out of 80 teachers agree that give feedback to the hearing impaired students after lectures giving a percentage of 23.8% while 23 out of 80 teachers disagree that they give feedback to the hearing impaired students after lectures given a percentage of 28.8%. 11 out of 80 teachers disagree that they give feedback to the hearing impaired students after lectures given a percentage of 13.8%. It means the majority of teachers agree that that they give feedback to the hearing impaired students after lectures.

Table 14: Distribution of teachers according to do hearing impaired students cope with your lectures comfortably?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	47,5	47,5	47,5
	Agree	31	38,8	38,8	86,3
	Disagree	11	13,8	13,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 38 out of 80 strongly agree that hearing impaired students cope with your lectures comfortably given a percentage of 47.5% .31 out of 80 teachers agree that hearing impaired students cope with your lectures comfortably giving a percentage of

38.8% while 11 out of 80 teachers disagree that hearing impaired students cope with your lectures comfortably given a percentage of 13.8%. 11 out of 80 teachers disagree that hearing impaired students cope with your lectures comfortably given a percentage of 13.8%. It means the majority of teachers agree that that they hearing impaired students cope with your lectures comfortably.

Table 15 : Distribution of teachers according to do students with hearing impairment perform well in your assessments?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	1,3	1,3	1,3
	Agree	24	30,0	30,0	31,3
	Disagree	20	25,0	25,0	56,3
	Strongly Disagree	35	43,8	43,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 1 out of 80 strongly agree that students with hearing impairment perform well in your assessments given a percentage of 1.3% .24 out of 80 teachers agree that students with hearing impairment perform well in your assessments giving a percentage of 30.0% while 20 out of 80 teachers disagree that students with hearing impairment perform well in your assessments given a percentage of 25.0%. 35 out of 80 teachers disagree that hearing impaired students with hearing impairment perform well in your assessments given a percentage of 43.8%. It means the majority of teachers agree that the hearing impaired students perform well in your assessments.

Table 16: Distribution of teachers according to do you consider the forms of assessment to employ for a hearing impaired student in your classroom?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	38	47,5	47,5	47,5
	Agree	25	31,3	31,3	78,8
	Disagree	17	21,3	21,3	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 38 out of 80 strongly agree that they consider the forms of assessment to employ for a disable student in your classroom given a percentage of 47.5% .25 out of 80 teachers agree that they consider the forms of assessment to employ for a hearing impaired student in your classroom giving a percentage of 31.3% while 17 out of 80 teachers

disagree that they consider the forms of assessment to employ for a hearing impaired student in your classroom given a percentage of 21.3%. It means the majority of teachers agree they consider the forms of assessment to employ for a hearing impaired in your classroom.

Table 17 : Distribution of teachers according to Do you deliver assessment strategies for a child with hearing impairment in an inclusive classroom?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	36,3	36,3	36,3
	Agree	20	25,0	25,0	61,3
	Disagree	16	20,0	20,0	81,3
	Strongly Disagree	15	18,8	18,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 29 out of 80 strongly agree that they deliver assessment strategies for a child with hearing impairment in an inclusive classroom given a percentage of 36.3% .20 out of 80 teachers agree that they deliver assessment strategies for a child with hearing impairment in an inclusive classroom giving a percentage of 25.0% while 16 out of 80 teachers disagree that they deliver assessment strategies for a student with hearing impairment in an inclusive classroom given a percentage of 20.0%. 15 out of 80 teachers strongly disagree that they deliver assessment strategies for a child with hearing impairment in an inclusive classroom given a percentage of 18.8%. It means the majority of teachers agree that that deliver assessment strategies for a child with hearing impairment in an inclusive classroom.

Table 18: Distribution of teachers according to do you grant extra time to hearing impaired students during exams?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	25	31,3	31,3	31,3
	Agree	25	31,3	31,3	62,5
	Disagree	19	23,8	23,8	86,3
	Strongly Disagree	11	13,8	13,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 25 out of 80 strongly agree that they grant extra time to hearing impaired students during exams given a percentage of 31.3% .25 out of 80 teachers agree that they grant extra time to hearing impaired students during exams giving a percentage

of 31.3% while 19 out of 80 teachers disagree that you grant extra time to hearing impaired students during exams given a percentage of 23.8%. 11 out of 80 teachers strongly disagree that they grant extra time to hearing impaired students during exams given a percentage of 13.8%. It means the majority of teachers strongly agree that they grant extra time to hearing impaired students during exams.

Table 19: Distribution of teachers according to do you differentiate exams depending on the hearing impairment of the students?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	19	23,8	23,8	23,8
	Agree	31	38,8	38,8	62,5
	Disagree	20	25,0	25,0	87,5
	Strongly Disagree	10	12,5	12,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 19 out of 80 strongly agree that they differentiate exams depending on the hearing impairment of the students given a percentage of 23.8% .31 out of 80 teachers agree that they differentiate exams depending on the hearing impairment of the students giving a percentage of 38.8% while 20 out of 80 teachers disagree that they differentiate exams depending on the hearing impairment of the students given a percentage of 25.0%. 10 out of 80 teachers strongly disagree that they differentiate exams depending on the hearing impairment of the students given a percentage of 12.5%. It means the majority of teachers agree that they differentiate exams depending on the hearing impairment of the students

Table 20: Distribution of teachers according to is your school learning environment adapted to learners with hearing impairment.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	1	1,3	1,3	1,3
	Agree	7	8,8	8,8	10,0
	Disagree	25	31,3	31,3	41,3
	Strongly Disagree	47	58,8	58,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 1 out of 80 strongly agree that they school learning environment adapted to learners with hearing impairment given a percentage of 1.3% .7 out of 80 teachers agree that they school learning environment adapted to learners with hearing impairment giving a percentage of 8.8% while 25 out of 80 teachers disagree that they school learning environment adapted to learners with hearing impairment given a percentage of 31.3%. 47 out of 80 teachers strongly disagree that they school learning environment adapted to learners with hearing impairment given a percentage of 58.8%. It means the majority of teachers strongly disagree that that school learning environment adapted to learners with hearing impairment.

Table 21: Distribution of teachers according to the classrooms accessible to the hearing impaired students?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	20	25,0	25,0	25,0
	Agree	27	33,8	33,8	58,8
	Disagree	19	23,8	23,8	82,5
	Strongly Disagree	14	17,5	17,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 20 out of 80 strongly agree that classrooms accessible to the Hearing impaired students given a percentage of 25.0% .27 out of 80 teachers agree that classrooms accessible to the Hearing impaired students giving a percentage of 33.8% while 19 out of 80 teachers disagree that they classrooms accessible to the hearing impaired students given a percentage of 23.8%. 14 out of 80 teachers strongly disagree that they are classrooms accessible to hearing impaired students given a percentage of 17.5%. It means the majority of teachers agree those classrooms accessible to the hearing impaired students.

Table 22: Distribution of teachers according to is the school liberty equipped enough to meet the learning needs of the hearing impaired students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	39	48,8	48,8	48,8
	Agree	19	23,8	23,8	72,5
	Disagree	8	10,0	10,0	82,5
	Strongly Disagree	14	17,5	17,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 39 out of 80 strongly agree that the school liberty equipped enough to meet the learning needs of the Hearing impaired students given a percentage of 48.8% .19 out of 80 teachers agree that they the school liberty equipped enough to meet the learning needs of the hearing impaired students giving a percentage of 23.8% while 8 out of 80 teachers disagree that the school liberty equipped enough to meet the learning needs of the hearing impaired students given a percentage of 10.0%. 14 out of 80 teachers strongly disagree that the school liberty equipped enough to meet the learning needs of hearing impaired students given a percentage of 17.5%. It means the majority of teachers strongly agree that the school liberty equipped enough to meet the learning needs of the hearing impaired students.

Table 23: Distribution of teachers according to are hearing impaired students comfortable in an inclusive classroom?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	31	38,8	38,8	38,8
	Agree	18	22,5	22,5	61,3
	Disagree	22	27,5	27,5	88,8
	Strongly Disagree	9	11,3	11,3	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 31 out of 80 strongly agree that they are Hearing impaired students comfortable in an inclusive classroom given a percentage of 38.8% .18 out of 80 teachers agree that they are hearing impaired students comfortable in an inclusive classroom giving a percentage of 22.5% while 22 out of 80 teachers disagree that they are hearing impaired students comfortable in an inclusive classroom given a percentage of 27.5%. Nine out of 80 teachers strongly disagree that they are hearing impaired students comfortable in an inclusive classroom given a percentage of 11.3%. It means the majority of teachers strongly agree that they are hearing impaired students comfortable in an inclusive classroom.

Table 24 : Distribution of teachers according to do hearing impaired students depend so much on their normal peers for their displacement needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ongly agree	32	40,0	40,0	40,0
	Agree	31	38,8	38,8	78,8
	Disagree	15	18,8	18,8	97,5
	Strongly Disagree	2	2,5	2,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 32 out of 80 strongly agree that Hearing impaired students depend so much on their normal peers for their displacement needs given a percentage of 40.0% .31 out of 80 teachers agree that hearing impaired students depend so much on their normal peers for their displacement needs giving a percentage of 8.8% while 15 out of 80 teachers disagree that hearing impaired students depend so much on their normal peers for their displacement needs given a percentage of 18.8%. Two out of 80 teachers strongly disagree that hearing impaired students depend so much on their normal peers for their displacement needs given a percentage of 2.5%. It means the majority of teachers strongly agree that hearing impaired students depend so much on their normal peers for their displacement needs.

4.1.4. Analysis of the dependent variable

Table 25: Distribution of teachers according to do you appreciate having students with hearing impairment in your classrooms?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	26	32,5	32,5	32,5
	Agree	24	30,0	30,0	62,5
	Disagree	22	27,5	27,5	90,0
	Strongly Disagree	8	10,0	10,0	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 26 out of 80 strongly agree that they appreciate having students with hearing impairment in your classrooms given a percentage of 32.5% .24 out of 80 teachers agree that they appreciate having students with hearing impairment in your classrooms giving a percentage of 30.0% while 22 out of 80 teachers disagree that they appreciate having students with hearing impairment in your classrooms given a percentage of

27.5%. Eight out of 80 teachers strongly disagree that they appreciate having students with hearing impairment in your classrooms given a percentage of 10.0%. It means the majority of teachers strongly agree that that appreciate having students with hearing impairment in your classrooms.

Table 26 : Distribution of teachers according to do you encourage interactions between hearing impairment with other students?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	62	77,5	77,5	77,5
	Agree	7	8,8	8,8	86,3
	Disagree	7	8,8	8,8	95,0
	Strongly Disagree	4	5,0	5,0	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 62 out of 80 strongly agree that they encourage interactions between hearing impairment with other students given a percentage of 77.5% .7 out of 80 teachers agree that they school encourage interactions between hearing impairment with other students giving a percentage of 8.8% while 7 out of 80 teachers disagree that they encourage interactions between hearing impairment with other students given a percentage of 8.8%. 4 out of 80 teachers strongly disagree that they encourage interactions between hearing impaired students with other students given a percentage of 5.0%. It means the majority of teachers agree that that encourage interactions between hearing impaired students with other students.

Table 27 : Distribution of teachers according to do effective interaction improves the performance of hearing impaired students in your school.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	29	36,3	36,3	36,3
	Agree	21	26,3	26,3	62,5
	Disagree	3	3,8	3,8	66,3
	Strongly Disagree	27	33,8	33,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 29 out of 80 strongly agree that effective interaction improves the performance of hearing impaired students in your school given a percentage of

26.3% .21 out of 80 teachers agree that effective interaction improves the performance of hearing impaired students in your school giving a percentage of 26.3% while 3 out of 80 teachers disagree that effective interaction improves the performance of hearing impaired students in your school given a percentage of 3.8%. 27 out of 80 teachers strongly disagree that effective interaction improves the performance of hearing impaired students in your school given a percentage of 33.8%. It means the majority of teachers strongly agree that effective interaction improves the performance of hearing impaired students in your school.

Table 28: Distribution of teachers according to are they special activities meant for the hearing-impaired students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	34	42,5	42,5	42,5
	Agree	23	28,8	28,8	71,3
	Disagree	16	20,0	20,0	91,3
	Strongly Disagree	7	8,8	8,8	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 34 out of 80 strongly agree that special activities meant for the hearing impaired students given a percentage of 42.5% .23 out of 80 teachers agree that special activities meant for the hearing impaired students giving a percentage of 28.8% while 16 out of 80 teachers disagree that special activities meant for the hearing impaired students given a percentage of 20.0%. Seven out of 80 teachers strongly disagree that special activities meant for the hearing-impaired students given a percentage of 8.8%. It means the majority of teachers strongly agree that special activities meant for the hearing impaired students.

Table 29 : Distribution of teachers according to does the hearing disability of the students affect the hearing impaired students in the learning process.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	25	31,3	31,3	31,3
	Agree	4	5,0	5,0	36,3
	Disagree	13	16,3	16,3	52,5
	Strongly Disagree	38	47,5	47,5	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 25 out of 80 strongly agree that hearing disability of the students affect the hearing impaired students in the learning process given a percentage of 31.3% .4 out of 80 teachers agree that hearing disability of the students affect the hearing impaired students in the learning process giving a percentage of 5.0% while 13 out of 80 teachers disagree that hearing disability of the students affect the hearing impaired students in the learning process given a percentage of 16.3%. 38 out of 80 teachers strongly disagree that hearing disability of the students affect the hearing impaired students in the learning process given a percentage of 47.5%. It means the majority of teachers strongly disagree that those hearing disability of the students affect the hearing impaired students in the learning process.

Table 30 : Distribution of teachers according to is there enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	31	38,8	38,8	38,8
	Agree	37	46,3	46,3	85,0
	Disagree	7	8,8	8,8	93,8
	Strongly Disagree	5	6,3	6,3	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 31 out of 80 strongly agree that there enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process given a percentage of 38.8% .37 out of 80 teachers agree that there enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process giving a percentage of 46.3% while 7 out of 80 teachers disagree that there enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process given a percentage of 8.8%. Five out of 80 teachers strongly disagree that there are enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process given a percentage of 6.3%. It means the majority of teachers agree that that there are enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process.

Table 31 : Distribution of teachers according to are all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly agree	16	20,0	20,0	20,0
	Agree	29	36,3	36,3	56,3
	Disagree	27	33,8	33,8	90,0
	Strongly Disagree	8	10,0	10,0	100,0
	Total	80	100,0	100,0	

From the analysis of the responses, 16 out of 80 strongly agree that all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution given a percentage of 20.0% .29 out of 80 teachers agree that all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution giving a percentage of 36.3% while 27 out of 80 teachers disagree that all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution given a percentage of 33.8%. Eight out of 80 teachers strongly disagree that all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution given a percentage of 33.8%. It means the majority of teachers agree that that they all types of equipment available in your institution for learners with hearing impairment in order to facilitate their efficient learning process in your institution

HYPOTHESIS ONE

Alternative hypothesis (H$_a$): H$_a$ - There is a relationship between teachers' training and the social interactions of hearing impaired students.

Null hypothesis (H$_O$): H$_0$ - There is no relationship between teacher's training and social the interactions of hearing impaired students.

Table 32 : Correlations between teachers training and social interactions of hearing impaired students

		Teacher's training	Social interaction of hearing impairment students
Teacher's training Spearman's rho	Spearman's rho Correlation	1	,602**
	Sigg. (2-tailed)	.	,000**
	N	80	80
Social interactions of hearing impairment students	Spearman's rho Correlation Coefficient	,602**	1
	Sigg. (2-tailed)	,000**	.
	N	80	80

**. Correlation is significant at the 0.01 level (2-tailed), N= Total population

The table above tests the association between teacher's training and the Social interactions t of hearing impaired students. The level of significance less than 0.001 (P-value=0.001) which shows that there is a relationship between teacher's training and the social interactions of hearing impaired students. The coefficient correlation of Spearman, which is 0.602, is less than one (r < 1), it shows that there is a high correlation positive relation between teacher's training and social interaction between hearing impaired students.

HYPOTHESIS TWO

Alternative hypothesis (H_a): H_a – There is a relationship between teaching method and social interactions of hearing impaired students.

Null hypothesis (H_O): H_0 – There is no relationship between teaching method and social interactions of hearing impaired students.

Table 33: Correlations between teaching methods on social interactions of hearing impaired students

		Teaching methods	Social interaction of hearing impairment students
Teaching methods	Spearman's rho Correlation	1	,882**
	Sigg. (2-tailed)	.	,000**
	N	80	80
Social interactions of hearing impairment students	Spearman's rho	,882**	1
	Correlation Coefficient		
	Sigg. (2-tailed)	,000**	.
	N	80	80

**. Correlation is significant at the 0.01 level (2-tailed),N=Total population

Considering teaching methods and social interactions of hearing impairment students on the table above, we observe a Spearman value of 0.882 showing a strong correlation positive relationship that exist between the two variables. Base on the result (p-value = 0.000 < 0.0001), we reject the null hypothesis and conclude that there is a significant relationship between teaching methods and the social interactions of hearing impaired students. Coefficient correlation of Spearman, which is 0.882, is less than one (r < 1); it shows that there is a high correlation positive relation between teaching methods on interactions of hearing impaired students.

HYPOTHESIS THREE

Alternative hypothesis (H$_a$): H$_a$ - There is a relationship between Assessment method and social interactions of hearing impaired students.

Null hypothesis (H$_O$): H$_0$ - There is no relationship between Assessment methods and the social interactions of hearing impaired students.

Table 34 : Correlations between assessment methods and social interactions of hearing impaired students

		Assessment method	Social interaction of hearing impairment students
Assessment methods	Spearman's rho Correlation	1	,674[**]
	Sigg. (2-tailed)		,000[**]
	N	80	80
Social interactions of hearing impairment studer	Spearman's Correlation Coefficient	,674[**]	1
	Sig. (2-tailed)	,000[**]	
	N	80	80

**. Correlation is significant at the 0.01 level (2-tailed);N=Total population

The table above tests the association between teachers use accessibility assessment method on Social interaction of hearing impairment students. The level of significance is 0.000 which is less than 0.0001 which is the standard error margin (P-value<0.0001). Alternatively, the correlation coefficient is 0.674 reveals that there is a high positive correlation relation between Assessment methods on social interaction of hearing impairment students.

Based on these, we reject the null hypothesis and retain the alternative hypothesis, which states that Assessment methods have an influence on social interactions of hearing impaired students.

HYPOTHESIS FOUR

Alternative hypothesis (H$_a$): H$_a$ - There is a relationship between learning environment and Social interactions of hearing impaired students.

Null hypothesis (H$_O$): H$_0$ - There is no relationship between Learning environment and social interactions of hearing impaired students.

Table 35 : Correlations on learning environment on social interaction of hearing impaired students

		Learning environnent	Social interaction of hearing impairment students
Learning environnent	Spearman's rho Correlation		,487**
	Sigg. (2-tailed)		,000**
	N	80	80
Social interactions of hearing impairment students	Spearman's rho Correlation Coefficient	,487**	1
	Sig. (2-tailed)	,000**	
	N	80	80

**. Correlation is significant at the 0.01 level (2-tailed), N=Population

The table above tests the association between teachers use accessibility learning environment on Social interactions of hearing impaired students. The level of significance is 0.000, which is less than 0.0001, which is the standard error margin (P-value< 0.0001). Alternatively, the correlation coefficient is 0.487 reveals that there is a weak positive correlation relationship between Learning environments on social interactions of hearing impaired students. Based on these, we reject the null hypothesis and retain the alternative hypothesis which states that learning environment have an influence on social interactions of hearing impaired students.

Table 36: Recapitulative table of results

Hypotheses	Level of significance	Alpha	Correlation Coefficient	Conclusion
Hypothesis one	0.000		$0,602^{**}$	Ho rejected Ha Retained,
Hypothesis two	0.000	0.01	$0,884^{**}$	Ho rejected Ha Retained
Hypothesis three	0.000		$0,674^{**}$	Ho rejected Ha Retained
Hypothesis four	0.000		$0,487^{**}$	Ho rejected Ha Retained

The acceptance of all the specific alternative hypotheses gives right to retain the general hypothesis which states that pedagogic competence significantly influences the social interactions of hearing impairment students in the Adventiste secondary school in Yaoundé. Based on the findings, recommendations have been made to the various stakeholders who are involved in the domain of education.

4.2.QUALITATIVE RESULTS

4.2.1. Presentation of the students

Student: A moderate hearing loss.

The atmospheric conditions in class with my teachers and peers are good and at time tense.

At times,the some teachers used interactive methods us while other teachers do not really understand us.

At times when the lesson is mostly concrete and explanatory.

The teacher used formative and summative assessment methods.

The teacher used written, demonstrative and oral strategies in assessing me.

I sit in the second column on the first bench, at the right side.

Yes but I hardly go there.

We are space out in the classroom.

Source: 2022 field survey

For learner 1, it appears from the interview with this pupil that the learning environment, in particular the interactions with his classmates and peers, are of good quality and enable him to

feel confident in an environment in which collaboration offers him attachment relationships that help him to learn better and to develop better interactions and socialization behaviors. As far as teachers are concerned, many do not master sign language and this poses many difficulties for their learning. However, other teachers, the specialist teachers, not only set up interactive learning methods, but also develop techniques such as reading of lips,total communication and tools like picture demonstrations adapted to their learning. As for classroom layout, students recognize that classrooms are not always suited to their socialization and learning. In their learning environment, there are areas for recreation.

Student: B severe hearing loss.

The atmospheric conditions with my teachers and peers are at times good and at times tense.
At times.
Some teachers used demonstrative methods depending on the lessons while other teachers teaches normally.
At times especially concrete lessons.
When my marks are very low due to formative assessement,the teachers will give me summative assessment on the insistence of the specialized teacher
The teacher uses both formative and summative assessment in assessing me.
I sit at the last bottom side at the left of the classroom.
Yes, but I rarely go there.
We are space out in the classroom.

Source: 2022 field survey

For Learner B, the learning environment and climate straddle the line between harmonious and conflictual. The learner recognizes that the environment is not always sociable. This has consequences for their socialization and learning. As for teaching methods, the learner said that some of the teachers used methods and strategies adapted to the lessons. As far as assessment is concerned, it appears that the teacher fluctuates between formative and summative assessment. Like his classmate, learner B recognized that the learning environment was well equipped, although he had difficulty getting to the library and other recreational and learning areas in the school. As for the classrooms, the learner recognizes, like his classmate, that they are space out. Which makes learning any easier.

Student: C mild hearing loss.

The atmospheric conditions with my teachers and peers are quite good. Most of the time. Most teachers teaches normally using interactive methods not really taking us in consideration. I am used to formative assessment even when my marks are low. The teachers used both formative and summative assessment with all students. I sit at the top right hand side in the first bench of the classroom. Yes, I used to visit but rarely. We are space out in classroom

Source: 2022 field survey

For learner C, the interview provides sufficient information on the climate and its impact on his socialization. According to the learner, the climate of interaction between him and his peers is calm and reassuring. As for the teachers, the learner acknowledged that most of them used ordinary methods without taking their hearing impairment into account, which hindered their learning. As for assessment methods, depending on his marks, the student uses formative assessment. As far as the teacher is concerned, it appears from this student's point of view that teachers use formative and summative methods to assess them. Sitting in a prominent place in the classroom, the pupil recognizes that their classrooms are not adapted and arranged for their learning. They are space out in the classrooms. It is also clear that this learner, like all the others, frequently uses areas such as the library.

Student: D severe hearing loss.

The atmospheric conditions with my teachers and peers are good. At times. Some teachers used interactive in as well as considering us, while other do not really border. I am used in formative assessment. The teachers uses both formative and summative assessment with all students. I sit in the third column of the classroom. Not really. We are space out in the classroom

Source: 2022 field survey

For learner D, the answers to the questions asked are not far from those given by his peers, respondents A, B and C. It is important to point out that learners share the same school environments. In other words, the same realities, the same teachers and the same teaching. The learning atmosphere for the learner is appropriate and suitable for socialization. The learner recognizes that the quality of the atmosphere between him and his peers and teachers is favorable. The teaching methods and tools are more or less adapted to learning. As for the

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classrooms, he responded in the same way as his colleagues. For these students, there was one thing in common when it came to answering the question about classrooms. Each of the students stated with conviction that they were space out in the classrooms.

CHAPTER FIVE
INTERPRETATIONS, DISCUSSIONS AND RECOMMENDATIONS

5.1. INTERPRETATIONS

The aim of the study was to know the impact of teacher's pedagogic competence on the social interactions of hearing impairment students, that is; if teachers are trained to teach an inclusive classroom with Hearing impaired students, examine ways general teachers teach and assess students with Hearing impaired students in an inclusive classroom, and to investigate if the infrastructures are adapted to the learning needs of the Hearing impaired students in the process of their social interactions an inclusive classroom. The study was built around four specific objectives.

5.1.1. Interpretation on the teacher training has a relationship on social interactions of hearing impaired students

The first objective was exploring the training received by teachers on the social interactions of hearing impaired students. Findings show that, teachers acknowledge the importance of inclusive education for students with special needs to gain important life skills and to eliminate elements of exclusions and segregations. The results also seem to show that, teachers' knowledge of inclusive education for learners with special needs, does not embrace the important features expressed in the Salamanca statement. The little knowledge teachers have, is contributed by lack of specific policies and guidelines surrounding the whole process of inclusive education. Lack of policies and guidelines of how inclusive education should be implemented; affect the overall process of preparing conducive environments for inclusive practices, such as training of teachers (Gronlund, Lim & Larsson, 2010).

On the other hand, lack of sufficient training may also be a reason to the few numbers of hearing impaired students in our schools. It is evident therefore that, the little knowledge teachers have on inclusive education, affects the process of teaching and rendering services to students with hearing impaired in inclusive classrooms. This explains why they really are unable to do well. That is why it is generally said that, a teacher who has stopped learning should stop teaching, because education is a continuous process, therefore, from this study we realise that the training of teachers is indispensable for the success of the students. An untrained teacher will lack suitable methods to transfer the knowledge required to consequently, will turn up to be the cause of failure to the students. From this discovery, we shall say that because of unqualified

teachers, inclusive education in the schools turns to be a factor of poor performance to the students.

Researchers note that teachers may resist inclusive practices because of inadequate training (Sharon et al, 2007). Most teachers perceive themselves as unprepared for inclusive education because they lack appropriate training in this area. Inadequate training relating to inclusive education may result in lowered teacher confidence as they plan for education (Sharon et al 2007). Teachers who have not undertaken training regarded students with hearing impairment with much pity as they long to help them succeed but were unable to do because they were unqualified. Training in the field of special education appears to enhance understanding and improve the quality of most teachers who have undertaken extra time and their cost to study for the sake of these students.

5.1.2. Interpretation on how teaching methods has a relationship on social interactions of hearing impaired students

The second objective was to find out ways teachers adapt teaching methods for students with disable in an inclusive classroom with Hearing impaired students. It was found from the interview that; teachers use several adaptive methods to teach students with hearing impairments. Such methods include oral questions, sign language, picture showing, voice projection, discussion groups and calling students' names and addition of time. Other adaptive methods include the use of teaching resources, encouraging peer support and the use of lecture method. However, through observation, teachers did not seem to adapt methods the way they said. This might be due to many challenges that hinder their adaptations.

Teachers claimed to lack knowledge necessary for adapting the methods for teaching. Lack of knowledge causes the problem of marking and preparation of teaching materials that suit the learning of students with hearing impairment. Teaching materials themselves for students with disable were also found to be lacking. In addition, teachers mentioned limited time as an obstacle to finish the syllabi and to the use of participatory methods such as group discussions. Due to these challenges, adaptations of different methods for students with hearing impairment, students seemed to be problematic.

In this situation, how should we expect teachers to teach better and meet the needs of student's with hearing impaired students in inclusive classrooms? It is argued that, these students will not be able to understand the lesson and have good performance if the teaching methods applied in inclusive classrooms, are not conducive to them (Daily News, 2012b; Gronlund, Lim &

Larsson, 2010; Mmbaga, 2012). This means that, the process of teaching students with hearing impaired students in inclusive classrooms is vastly affected. Interpretation on Classroom assessment influence student's performance in an inclusive education.

Additionally, the study found out that, there was lack of collaboration and participation of the administration in the educational affairs of these students; moreover, findings revealed that, teachers do not have enough knowledge of inclusion and how to teach these students and because of this, it affects the methods of teaching.

5.1.3. Interpretation on how classroom assessment has a relationship on social interactions of hearing impaired students

Our third objective was to find out how assessment methods affect the social interactions of hearing impaired in an inclusive education. Given that the main purpose of education is to educate a child by letting the child succeed after a proper understanding of his classroom lessons taught in class, from the findings, majority of teachers are aware that in each of their classes the students are not at the same intellectual level. Yet, they manage to give equal assessments knowing that all cannot perform well, but do not differentiate assessments and examinations to suit the needs of students according to each one's hearing impairment.

This was because most teachers were not trained in the areas of special education and therefore they had no idea on how the adaptation could be done. When they thought that they should break the examination according to the type of hearing impairment, they themselves felt they were not been objective in the treatment of students and wandered if they could do it properly as it could rather affect the performance of the students.

We also realised that, tools used to access students in inclusive classrooms are rigid and not adapted; students are not evaluated based on their individual ability and specific educational needs. A normative kind of assessment seems to dominate in the classes, thus it has been a big challenge towards inclusive education. It is but clear that each and every one of these students would need to be evaluated individually because they do not have same aptitude, that is not the case the students were given same evaluation this explains why their performances are low in an inclusive education since their needs, difficulties and challenges are not really been discerned by the school. Once an assessment is not objective, it cannot be called a real assessment, so in assessing an inclusive classroom, assessment for each student should be drafted according to his need and ability. This is because not all the students have same intelligence quotient in their state of hearing impairment.

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5.1.4. Interpretation on the school environment has a relationship on social interactions of hearing impaired students

Our forth objective was to verify how the learning environment affects the social interactions of hearing impaired students. On access to infrastructure, housing and transport; section 33 article 1 states that: Government and private buildings and institutions open to the public shall be designed such as to facilitate access and use by PWDs. Article 2 states: when carrying out renovation or major transformation work on buildings, existing government or private buildings and facilities open to the public shall be refurbished such as to facilitate access and use by PWDs.

Environmental changes are changes in the physical environment of the classroom. For example, a teacher may arrange learner desks or learning materials in such a way as to make it easily accessible to all learners. Learners with hearing impairments for example can be placed in the front of the room. Learners with behavioural problems may also be seated close to the teacher. The classroom itself may be structured so that there are several workstations with activities of different levels of difficulty and activities for different styles of learning (Door lag & Lewis, 1999). For example, one station can be more visually based such as maps, diagrams and pictures; another station can focus on auditory learning with a tape recorder or the teacher giving verbal instructions; and lastly another station may have computers where learners can type instead of write and do extra research on the topic of the week.

According to Carmen (2014), the role of the classroom teacher is to manage the classroom in a manner that meets the individual needs of each student in the class. This includes promoting learning and supplementing activities, coordinating and collaborating with support staff, using a variety of teaching approaches, and adapting instruction to include all students. The classroom teacher is in charge of each student's overall academic program. Charema and Peresuh (1996) contend that inadequate relevant resources and facilities is an obstacle to the implementation of inclusive education in developing countries. A study done by Kisanji (1995) in Tanzania revealed that, appropriate materials were insufficient for children with hearing impairment enrolled in regular schools.

According to Spungin (2002), students with hearing impairment can get information from the environments through three ways. Gestual description is the most important source of information to hearing impaired students. However, verbal description provided by others is always incomplete and cannot satisfy the person's needs. Another way is the use of tactile

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stimuli. However, a tactile method is also not effective, because a student needs to feel an object repeatedly in order to grasp the image of the object. Finally, students with hearing impairment rely on self-exploration about the world. This way is limited in amount of information that can be accessible to students with hearing impairment. Overall, these modalities together cannot effectively compensate for loss of hearing or visual   stimuli; they are there just to reduce the impact to learning caused by lack of audition.

Door lag and Lewis (1999) as well as UNESCO (2005) who gave some examples on how to make instructional and environmental adaptations supported the findings. They suggested that the teacher provide additional instruction and assistance in areas where the learners experience difficulty; structure practice activities to provide learners with enough time to master skills; be flexible with regard to a time frame, provide special support in particular subjects

5.2.DISCUSSIONS

It was interesting to know that teachers have certain knowledge on what inclusive education is all about. On the field, teachers appreciated the importance of inclusive education, and bringing out reasons for teachers to be trained and adaptation of teaching and assessment methods to help students benefit from the lesson. However, teachers do not have sufficient knowledge of teaching students in inclusive settings. For instance, teachers do not have the knowledge of reading, understanding and translating braille writings, they do not know what it takes to handle a slow student and many other cases. In addition, since they have not been trained, it seems almost impossible to adapting methods to the learning needs of all these students with varying needs, as they are used to using the general methods.

This reflects one of the reasons stated earlier, for conducting this study. The findings generated from the study shows a gap in knowledge. That is why the work suggested for more studies on teacher's pedagogic competence on the social interactions of hearing impaired student in inclusive education so that teachers become aware of it and know how to implement it more appropriately. Furthermore, the presence of many challenges in this study surrounding provision of inclusive education, as revealed from this study, suggests that achieving realities of inclusive education in these schools and other schools facing similar challenges is a difficult endeavour. The study was therefore conducted to know the extent to which teacher's pedagogic competence influences the impact of social interactions of hearing impaired students in inclusive education in the Yaoundé Adventiste secondary school.

Teachers should have instructional strategies to ensure effective classroom changes. Classroom instruction should be one that is enabling to ensure that every member of the classroom understands the content. The teacher needs to be experienced in making use of diverse teaching methods so that he or she meets the intellectual level of each student in class. Apart from applying teaching methods, teachers should also demonstrate mastery of classroom management strategies. They should also be able to maintain order and discipline in their classroom, ask appropriate questions with an optimum level equitable to all the students.

The teacher must be alert that some student can observe, listen and learn, others learn by doing, some learn well by themselves with minimal support from teachers. Others need interactions from groups. Most teaching in schools is done using either visual (sight) or auditory (hearing) stimuli. The student's sight is used in reading information, looking diagrams, aids, pictures or demonstrations or reading what is on the teacher's board.

This is in line with content of the Salamanca statement agreed upon in 1994 by over 300 representatives from 92 governments and 25 international organizations under the auspice of UNESCO and Spain's Ministry of Education and Science. The statement requires schools to accommodate and respond to the educational needs of all children regardless of their differences in terms of physical, intellectual, social, emotional, linguistic or other conditions. It clarifies the definition of "all children" as it states that: these should include disabled children and gifted children, street and working children, children from remote and nomadic populations, children from linguistic, ethic or cultural minorities and children from disadvantage or marginalized areas or groups.

The condemnation of exclusionary practices is evident on item 17 and 18 of the Salamanca statement: mainstreaming children with hearing impairment should be an integral part of the national plans for achieving Education for All. Even in exceptional cases where children are placed in special schools, their education need not be entirely segregated. Part-time attendance in regular school should be encouraged. Necessary provisions should also be made for ensuring inclusion of youth and adults with special needs in secondary and higher education as well as training programmes.

From the above discussion, it is evident that behind a focus on 'all student', there is an acknowledgement that every learner can learn, thus implying that individuals are born with abilities and potential that need to be developed if they are to experience success. As noted

anyone can be taught anything, given good teaching and sufficient time. Schools, educators and communities should therefore exhibit high expectations for all learners, and create educational environments that are enabling.

5.3. RECOMMENDATIONS

Because of the findings of this study, the following recommendations are proposed to the respective stakeholders in the education of the Hearing impaired students.

5.3.1. Parents

➢ Parents should accept their hearing impaired children knowing hearing impairment is not a barrier to be a developed person in the society.

➢ Learners should be provided with a rich environment to enable them to maximize their learning potential by being supportive in their words and actions.

➢ Parents with normal and hearingimpaired children should invest equally in their education without any form of discrimination.

5.3.2. School authorities

➢ Guidance and counselling is key for the hearing impaired learners hence counsellors should help boost the morale of these students by encouraging them not to see their condition as a barrier to their education but as a catalyst to the educational system.

➢ Teachers should organize for themselves individual and group sessions to reduce stressful situations and help in boosting their self- esteem.

➢ Resources necessary for the education of learners with hearing impairment should be provided and made available in the school despite their numbers.

➢ Teachers of learners with hearing impairment should be trained and given instructions on how they can best handle the students. They must be proficient and be able to engage the compensatory senses of the learners.

➢ More extra time and fix time need to be allocated to the learners to enable them finish assignments and examinations to perform at tasks hence need for timetable adjustment.

➢ Care should be taken that, the methods used in teaching these students is corrective and can enhance their success.

5.3.3. The Society

➢ The society and peers need to be sensitized through radio, peer social gathering, school clubs and television talks on the hearing impairment condition of these learners.

➤ Positive attitudes must be adopted to ensure essential social and conceptual experiences, which enhance learning in spite of the hearing impairment.

➤ The society need to accept every one despite his condition.

5.3.4. The Government

➤ The government in coordination with the curriculum developers should adjust the curriculum to suit the unique needs of the hearing impaired learners. Aspects such as observing colour are challenging. Assistive devices as if hand frame and stylus, computer built in program like the JAWS, abacus and embroiders should be made available in the mainstream school practicing IE. This will ensure that learners are able to compete favourably well with their peers because they are subjected to same exams when being tested.

➤ The government needs to take action and ensure that the resolutions of the Millennium Development Goals of Dakar (2000) are fulfilled by eradicating illiteracy among hearing impaired learners which was supposed to have been done by 2015.The need to feel loved and accepted in the environment in which they find themselves. If the government becomes involved in the education and welfare of these persons, policy makers will make provisions for training SNE teachers to suit the needs of PWDs in every school. If the government does that, barriers that bring about the stigmatization of PWDs will be reduced. As such, they will become socio-educationally well-developed like persons without hearing impairment.

➤ Special teacher training colleges should be created to train teachers specifically for the education of hearing impaired learners in all aspect.

➤ Lastly, the government should intensify and monitor quality assurance services in school for the students. This will help in discovering how best these learners receive education, methods teachers are using and other challenges that are encountered during the teaching and learning process so that necessary steps can be taken.

➤ The various secondary schools should equip the library and the resource room with up to date teaching and learning resources such as victor readers, computers with jaws, adapted maps, adapted mathematical equipment, pictograms, large print, to cater for students with HI.

5.4. SUGGESTIONS FOR FURTHER RESEARCH

The following research topics have been recommended for further research by many other researchers who would like to get into studying the domain of inclusive education:

➢ Learning is a continuous process and it is for this reason that this suggestion for further research on findings which are not only limited to the social environment but also other environmental factors like physical, cognitive, psychological emotions can be investigated.

➢ There should be means to organize a comprehensive in-service training for the school staff on regular basis to familiarize them with current issues concerning the visually impaired in the school. This is deemed significant, as it will empower the staff to better offer the necessary assistance to the hearing impaired students in their educational pursuit. Under this, the researcher may also look into whether budgetary allocations are made available towards such an important exercise. Given that teachers are, the final implementers of educational policies should be endowed with the required skills and information, which they can use in teaching their students.

➢ Another concern is the difference in the provision of the educational resources between the two groups of students the disable and the normal in the school. In view of the fact that education is not just bringing persons with special educational needs to the mainstream schools to be taught alongside their regular colleagues but their needs adequately provided for (Johnsen & Skjorten, 2001; Terzi, 2010).

➢ Future researchers could look into what led to such serious discrepancies in the provision of educational resources in the school. Specific attention may perhaps be whether there is lack of policy direction towards special education in general. This is an important area for the provision of quality education in Cameroon.

➢ Another likely area to explore in a future research may possibly understand that lack of political will resulting in a mere cosmetic action in the provision of educational materials for the hearing impaired students.

➢ Employment opportunities for students with hearing impaired students after completion of their Studies

➢ Challenges encountered by teachers with hearing impaired students,teaching in secondary schools in Cameroon.

➢ Learning difficulties faced by learners with hearing impairment in inclusive secondary school in Cameroon.

➢ The study only studied the challenges of disable learners who are already enrolled in school, however, the challenges of disable are not limited only in school other areas of challenges should be investigated upon. Their challenges involved in other works of life, not necessarily education could also be investigated in order to increase their productivity and placement in the society. This will help make rich history of findings and hence improve our

understanding of the plight of the hearing impaired and commit to providing all the assistance they need to find their place in the society and contribute their own quota to the development and emergence of Cameroon by 2035.

5.5. LIMITATION OF THE STUDY

It is worth nothing that most task in life encounter difficulties and this research work was no exception. The following difficulties were encountered.

The first difficulty the researcher faced was seeking permission from the school to carry out fieldwork. As the researcher had to visit the school about three three times before he got the principal on seat. Sometimes the principal is out of school or in a meeting. This slowed down the field study.

Equally, the researcher faced the problem of getting teachers respond to the questions as most of the considered it a disturbance to their personal activities. Some teachers kept telling the researcher that they lacked time to respond. This made the task of data collection difficult.

In addition, there was the problem of time. The schedule put in place to carry out the research does not provide specific period for students to carry out the research. The research had to be carried out alongside other school activities that equally consumed time as well.

There was equally the problem of coming out with the literature as the researcher had to move from one library to the other in search of materials.

CONCLUSION

Hearing impairment have existed throughout history and reactions to individuals who have these types of hearing impairment varied across civilization, cultures and individual beliefs. Over the years, these people were excluded completely from the ranks of the "normal" society or community. They were completely abandoned, exterminated or left to fend for themselves as baggers on the crazy streets of the community. They were perceived as having diseases and sometimes seen as incurable. They were not regarded as being of much value to the societies in which they lived, reactions to people with hearing impairment have ranged from abandonment, rejection and extermination and have been treated as a matter of charity. Euphrasia and Patrick. (2008),

Education is the process of developing an individual to a responsible, purposeful, creative and useful being. It is aimed at developing the innate potential of an individual to the optimal level, which makes him useful in the society where he finds himself. To educate, to intervene in the lives of other human beings is a serious moral undertaking. If lack of knowledge is allowed to persist where knowledge could be obtained, the insufficient made policy, and the action undertaken seem negligent of concerns for the moral worth of other people then it would be unfair for the whole society. Despite being classified as the largest minority group with a greater livelihood of falling into extreme poverty, people with hearing impairment are frequently forgotten from mainstream development theory and policymaking.

The current laws created by states and intergovernmental organisations do not sufficiently protect persons with hearing impairment (PWDs) from discrimination nor do they offer equal and fair opportunities. Education is very essential in the life of the individual as it has the potential of securing a better life for him/her. This implies that when people are given the right training and tools through education irrespective of their physical status, they become empowered and can live dignified lives and contribute their quota to developing their societies and the nation at large. This is why the attainment of education in a Least Restrictive Environment (LRE) is assured for the overall development of humanity & for many nations across the globe is desirable. However, there are global challenges, which must be met in order to attain this goal.

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The main purpose of conducting this study was to explore how teacher's pedagogic competences are a determinant to the social interactions of hearing impairment student in inclusive education. It was aimed that whatever findings this study has in relation to the study, it would significantly contribute in bringing the advocacy of inclusive education forward in Cameroon. This is primarily because of the fact that although certain efforts or initiatives on inclusive education have been implemented in the nation, there seems to be a challenge in documenting them through empirical studies.

The findings of this current study provide an opportunity to formulate significant conclusions regarding the assessment of students with hearing impairment. First, there is a strong connection between the theoretical perspectives on teacher qualification, teaching methods, assessment methods and the learning environment. It can be assume that, this is because these theoretical perspectives became the bases in formulating education policies related Basic Education Program. Moreover, as policies, they need to be translated into classroom practices. However, this brings to the point that the teachers both use their professional and personal experiences in the classroom, which is one critical characteristic of a constructivist study. The findings of this study provide an important lesson to teachers that in handling students with hearing impairment, employment of variety of strategies is a necessity. Sticking to traditions without exploring other authentic strategies does not necessarily respond to the diverse needs of students with hearing impairment.

The researcher recognizes that the constructivist nature of this study poses a challenge to generality of its findings. However, how the teachers provided significant information in this study clearly highlight their substantial level of awareness towards inclusive education. Furthermore, it is important to emphasize that how the teachers handle students with hearing impairment in the regular classrooms indicates innovation, creativity, and willingness, which are important in bringing the social interactions of hearing impairment students in inclusive education forward. This scenario creates a positive image to the teachers' role in educating students with hearing hearing impairment especially that in most cases, teachers' incapacity to accommodate these students are consistently highlighted as a failure in their social interactions in inclusive education. In addition, this gives due credibility to the Department of Education that amidst challenges within the education system, the department is critical in ensuring that students with hearing impairment are accommodated in schools at least in the aspect of assessment.

Although the teachers in this study showed a number of strengths in handling these students with hearing impairment, the researcher critically, stress that teachers should refrain from perceiving that differentiating assessment is only applicable to students with impairment. It has to be emphasized that due to the diversity of learners in the regular classrooms, differentiation has to be employed not only to the selected few, but also to all learners. Finally, this study has limitations, which can be addressed in other studies that will be conducted in relation to assessment of students with hearing impairment.

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APPENDICES
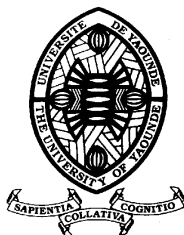
QUESTIONNAIRE

Please complete the questionnaire by responding to all questions. Information that you give will be kept confidential and will only be used for the purpose of this study to improve on the education of students with hearing impairment in the institutions of secondary schools.

SECTION A PERSONAL INFORMATION

Please tick where appropriate

1. What is your gender? Female ☐ Male☐
2. Age range? 25-30 ☐ 31-35 ☐ 36-40 ☐ 41- 45 ☐ 46- 50 ☐
3. In which schools are you teaching? lay private ☐ public ☐ private ☐
4. What is your highest academic level? O/L ☐ A/L ☐ Grade 1 ☐ First Degree☐

SECTION B

Teacher's training

1. Have you undergone any training on special need education?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

2. Do you think it is possible to teach learners with hearing impairment in an inclusive class?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

3. Do you encounter difficulties when interacting or teaching students with hearing impairment?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

4. Do you think it is necessary to organise seminars for teachers to learn how to handle an inclusive classroom with hearing impaired students?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

Teaching Methods

5. Do you make use of different teaching methods during lectures in an inclusive classroom?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

6. Do you think your teaching methods are appropriate for students with hearing impairment?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

7. Do you adapt teaching and learning like the usage of total communication, picture demonstrations, materials to suit students with hearing impairment?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

8. Do you give feedback to the hearing impaired students after lectures?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

9. Do hearing impaired students cope with your lectures comfortabl ☐

Strongly agree Agree Disagree Strongly Disagree

Assessment methods

10. Do students with hearing impairment perform well in your assessments?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

11. Do you consider the forms of assessment to employ for a hearing impaired student in your classroom?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

12. Do you deliver assessment strategies for a child with hearing impairment in an inclusive classroom?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

13. Do you differentiate exams depending on the hearing impairment of the students?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

Learning environment

14. Is your classroom adapted to learners with hearing impairment?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

15. Is the school library equipped enough to meet the learning needs of the hearing impaired students?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

16. Are hearing impaired students comfortable in an inclusive classroom?

☐ ☐ ☐ ☐

Strongly agree Agree Disagree Strongly Disagree

SECTION C

Social interaction of hearing impaired students

17. Do you appreciate having students with hearing impairments in your classrooms?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

18. Do you encourage interactions between hearing impaired students with other students?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagre ☐

19. Does effective interaction improve the performance of hearing impaired students in your school?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

20. Are there special activities meant for the hearing-impaired students?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

21. Does the hearing impairment of the students affect the learning process?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

22. Is there enough financial allocation to learners with hearing impairment to help in availing the special equipment needed for their teaching and learning process?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

23. Are all types of equipment available in your institution for learners with hearing impaired students in order to facilitate their efficient learning process in your institution?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

24. Do you sensitise students on accepting and helping hearing impaired students in class?

Strongly agree ☐ Agree ☐ Disagree ☐ Strongly Disagree ☐

QUESTIONNAIRE OF Hearing impairment STUDENTS

- **THEME 1**

Teacher's qualification: The effects of teacher's qualification on the social interactions of hearing impairment students

Question

- What level of education do you have?
- How are your interactions atmosphere with hearing impairment students in the general inclusive classroom?

THEME 2

The effects of teaching methods on the social interactions of hearing impairment students

- Do you like the teaching styles used by your teachers in class?
- Which methods does the teachers use in the teaching learning process?
- Do you understand the various lessons that the teacher teaches?

THEME 3

The effects of assessment method on the social interactions of hearing impairment students

Question
- What are the various types of assessment that the teachers uses?
- Which assessment strategies does the teachers apply during evaluation?
- How often are you evaluated?

THEME 4

The impact of the Learning environment on the social interactions of hearing impairment students

Question

- Which position do you occupy in the classroom?
- Do you have access to the library?
- Are you space or congested in the classroom?
- Are you comfortable where you are sited in the classroom?