

Interaction between Learners who are Hard of Hearing and their Hearing Peers in  
Physical Education Lessons

*A case study of learners who are hard of hearing in physical education, Tanzania*

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## **Abstract**

Inclusion is seen as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. It involves changes and modifications in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children (UNESCO, 2005).

The trends in special education advocate the inclusion of children with special needs, including learners who are hard of hearing, in regular schools whenever possible. It is therefore necessary that the environment in regular schools should be conducive to facilitate the interaction, development, participation and working together of learners who are hard of hearing with their hearing peers. For this to be realized, learners who are hard of hearing should freely interact with their hearing peers in various activities.

As a natural phenomenon which occurs amongst human beings, interaction plays an integral part in everyday life. The interaction process involves what people actually do when they influence each other's behaviour. Many factors may hinder or sustain the interaction process. This study is an attempt to investigate the interaction between the learners who are hard of hearing and their hearing peers during physical education in one regular school in Tanzania and to describe the situation and their participation in physical activities.

A qualitative research and Case study design were used. Data was collected by means of observation, with the help of note taking and interview, with the help of radio-tape recorder for recording the conversations. Four learners who are hard of hearing were involved and participate under observation, two hearing peers and three teachers were involved in the participation under interview. All these participants were from the same school.

The results obtained indicate that learners who are hard of hearing interact favourably with their hearing peers despite the verbal communication barriers that exist, insufficient equipment and facilities for sports and games, lack of adaptive physical educators, the physical education as optional, not well given concentration as other subjects, even though is among of the highly interactive subject to both group of learners (hard of hearing with hearing peers).

The results of this study call for the recognition of learners who are hard of hearing in physical education, which is the among of the most interactive subject and easy for the learners to express their feelings and behaviours which could enhance modification and help them to change towards their peer, particularly in regular schools. Proper planning as regards the inclusion and awareness of learners who are hard of hearing is needed. Sensitization of the public and education need to be vigorous so that the regional and municipal administrators, school counselors, school community, parents and all other stakeholders know their roles and the needs of individuals with disabilities, and in particular those who are hard of hearing.

Finally, a policy guideline for education and the means of providing Special education has to be updated in order to improve services at all learners in need.

## **Dedication**

This work is dedicated to my beloved daughter Joanne, my family (brothers and sisters), my parents Mr. Danford and my Late Mother Safronia whose love for education formed a concret foundation, which developed my quest for education and opened up my habit of seeking more through research and education.

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## Table of Content

Abstract .....	II
Dedication .....	IV
Acknowledgement.....	V
Table of Content.....	VII
1 CHAPTER ONE .....	1
1.1 Introduction .....	1
1.1.1 Policy.....	1
1.1.2 Inclusion.....	2
1.1.3 Physical Education .....	4
1.1.4 Hard of hearing learners .....	5
1.2 Background to the research problem .....	6
1.2.1 History of Special Education in Tanzania.....	6
1.2.2 Sport programmes for learners with disabilities in Tanzania.....	7
1.2.3 Sports programmes for hearing impairment learners .....	8
1.2.4 Sport facilities and equipment for learners .....	9
1.3 Purpose of the study .....	10
1.4 Justification of the study.....	10
1.5 Research problem .....	12
1.5.1 Research question.....	12
1.5.2 Intention of the study.....	12
1.6 Limitation and delimitation of the study .....	13
1.7 Theoretical perspectives relevant to the study.....	13
1.8 Organisation of the study.....	13
2 CHAPTER TWO.....	16
2.1 Hearing impairment .....	16
2.1.1 Persons who are hard of hearing .....	16
2.1.2 Definition of hard of hearing.....	17
2.1.3 Characteristics of hearing impairment .....	18
2.1.4 Age at onset of the hearing impairment .....	18
2.2 Interaction and communication .....	19
2.2.1 Interaction.....	19
2.2.2 Communication .....	22

2.3	Eye contact and facial expression.....	24
2.4	Play and interaction .....	24
2.5	Participation of learners who are hard of hearing.....	25
2.5.1	Opportunities for interaction .....	27
2.5.2	Attitudes on interaction with other peers .....	28
2.6	Theories concern interaction .....	29
2.6.1	Vygotsky’s theory of Zone of Proximal Development .....	29
2.6.2	Vygotsky’s theory of Disontegenesis.....	30
2.7	Inclusion .....	31
2.8	Existing gap .....	33
3	<b>CHAPTER THREE: METHODS .....</b>	<b>34</b>
3.1	Introduction .....	34
3.2	Research design .....	34
3.3	Sampling procedures .....	36
3.3.1	Area of the study .....	36
3.3.2	Sampling.....	36
3.3.3	Selection of informants .....	37
3.4	Pilot study.....	38
3.5	Data Collection Instruments .....	38
3.5.1	Observation .....	39
3.5.2	Interview.....	40
3.6	Data Analysis Procedures.....	41
3.7	Validation & Reliability of the Instruments .....	43
3.8	Ethical Consideration .....	44
4	<b>CHAPTER FOUR: PRESENTATION AND ANALYSIS OF THE FINDINGS .....</b>	<b>46</b>
4.1	Introduction .....	46
4.2	Characteristics of the children in the study .....	48
4.3	Interaction between learners who are hard of hearing and their hearing peers .....	50
4.4	Peer support .....	55
4.5	Initiatives and turn-taking.....	56
4.6	Teachers role in encouraging interaction and participation.....	58
4.7	Challenges encountered during interaction .....	59
4.8	Summary.....	62

5	CHAPTER FIVE: DISCUSSION, RECOMMENDATION AND CONCLUSION .....	63
5.1	Introduction .....	63
5.2	The application of Zone of Proximal Development during interaction in this study	63
5.3	The application of theory of Disontegenesis in this study.....	64
5.4	Interaction between learners who are hard of hearing and hearing peers .....	64
5.4.1	Participation of learners who are hard of hearing .....	67
5.4.2	Peer Support .....	69
5.5	Initiatives and turn-taking.....	72
5.6	Teacher's role in encouraging interaction and participation.....	73
5.7	Challenges encountered during interaction. ....	74
5.8	Recommendation and conclusion .....	75
	LITERATURE .....	77
	Appendix 1: Introduction letter for research purposes from University of Oslo .....	84
	Appendix 2: Request letter for doing research in Tanzania .....	85
	Appendix 3: Permission from the Ministry of Education in Tanzania .....	86
	Appendix 4: Permission to do research at the schools from Ilala Municipal.....	87
	Appendix 5: Request letter to the Head of the school.....	88
	Appendix 6: Consent form to the Head of the school.....	89
	Appendix 7: Consent form to the parents/guardians .....	90
	Appendix 8: Observation guide.....	91
	Appendix 9: Interview guide.....	92



# 1 CHAPTER ONE

This chapter presents the background of the study which will be consisting of introduction of the study, background to the research problem, purpose of the study, justification of the study, research problem, theoretical perspectives relevant to the study, and organisation of the study.

## 1.1 Introduction

### 1.1.1 Policy

The United Republic of Tanzania Education policy (1996) stated that: Disabled children Should be integrated in regular schools, near their home so that they share school resources and joint experiences with their able-bodied peer group. It argues that hard of hearing learners can learn in regular classes together with hearing children, or other hearing impairment learners. This shows that interaction between hard of hearing and hearing learners in the same classes should be emphasised much. This will enforce the hard of hearing learners to benefit from the interaction with other hearing learners in the particular school, hwere by in each school programmes there some curricular activities and lessons which the learners have to abide with everyday, such as physical education and the like. Hence the interaction between hard of hearing with hearing learners during physical education lessons can be very much productive if the school can demonstrate the way the policy states above.

Before 1995, It shows that the Tanzanian Government had no proper policy formulated towards Physical education for learners with disabilities in schools, this situation made the handicap learners to lag behind in sport fields. Unfortunately the changes occurred in 1995 when a sport development policy was adopted with the following objectives: To provide sport facilities and equipment; to prepare adapted sport coaches; to prepare various competition which will facilitate the handicapped to participate nationally and internationally; also to modify rules and regulations which govern sport for the handicapped.

The government of Tanzania is at present implementing the policy to ensure that all learners including those with disabilities, out of school, orphans, those from low income households, nomadic communities and hard to reach areas are not denied their right to education. The policy is centred on the Constitution of the United Republic of Tanzania 1977 under 11(3) which reads as follows *"the government shall endeavour to ensure that there are equal and*

*adequate opportunities to all persons to enable them to acquire education and vocational training at all levels of schools and other institutions of learning".* Tanzania is improving the provision of education at all levels by implementing the following:

- construction and rehabilitation of school building to make them barrier free environment for learners with disabilities.
- Provision of learning/ teaching materials as well as assistive devices for learners with disabilities.
- Training of teachers to meet the needs of learners with disabilities in special schools integrated units and inclusive schools in ordinary school.
- Establishment of new special schools units and inclusive schools, to expand enrollment of learners with disabilities.
- Creating awareness among the society to play their role regarding their provision of education to learners with disabilities.

### **1.1.2 Inclusion**

*Inclusion is seen as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. It involves changes and modifications in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children (UNESCO, 2005).*

That is to say, inclusion has to be seen as a never-ending search to find better ways of responding to diversity. It is about learning how to live with difference and learning how to learn from difference. In this way differences come to be seen more positively as a stimulus for fostering learning, amongst children and adults.

Consequently, it involves collecting, collating and evaluating information from a wide variety of sources in order to plan for improvements in policy and practice. It is about using evidence of various kinds to stimulate creativity and problem-solving.

Inclusion is concerned with where children are educated, and how reliably and punctually they attend; how do they participate on the relations to the quality of their experiences whilst they are there and, therefore, must incorporate the views of the learners themselves; and also about the outcomes of learning across the curriculum, not merely test or examination results.

Salamanca statement and framework for action on special needs education 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, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalised areas or groups"* (UNESCO, 1994).

This indicates the moral responsibility to ensure that those groups that are statistically most "at risk" are carefully monitored, and that, where necessary, steps are taken to ensure their presence, participation and achievement in the education system. It is important to highlight that a holistic view of the education system, encompassing both the private and public system, must be taken when considering adopting an inclusive approach.

It is imperative, therefore, that education planners consider both the public and the private system in planning in order to effectively address the needs of all learners and combat exclusion. The move towards inclusion is a gradual one that should be based on clearly articulated principles, which address system-wide development. If barriers are to be reduced, the policy-makers, educational personnel and other stakeholders need to take certain steps which must involve all members of the local community, including political and religious leaders, local education offices and the media. Therefore, the move towards inclusion is not simply a technical or organisational change but also a movement with a clear philosophy. In order for inclusion to be implemented effectively, countries need to define a set of inclusive principles together with practical ideas to guide the transition towards policies addressing inclusion in education.

Inclusive education will help to provide the best solution for a school system which can meet the needs of all learners. Human beings are all different but with the same rights. The hard of hearing learners and hearing peers have the rights to interact in their schools during physical education lessons. Learners who participate in physical education have more opportunities to learn about the world, develop skills, and find jobs. Physical Education is especially important

for hard of hearing learners because it allows them to develop their thinking, to communicate with other hearing impaired learners and hearing peer, and to make friends. When the hard of hearing engage in physical education will be able to acquire skills which they can use to live productive, independent lives and take part in the life in their communities.

The inclusive classroom means that all learners have the right to feel safe, supported and included at school and in the regular classroom as much as possible. It is important that the teacher fully understands the learning, social and physical needs of the learners. A teacher has a special role to play when trying to maximize learning potential for students with special needs. It becomes the educator's role to create a welcoming environment and provide learners with ongoing opportunities to learn, share, and engage in all classroom activities. Determining what alternate assessment needs to occur is another area where the educator needs to make changes to specifically support the student in the regular classroom.

### **1.1.3 Physical Education**

Physical Education is defined as a program, practice, or process, in which body movement is produced by skeletal muscles and results in expenditure of energy and includes a broad range of occupational, leisure time, and routine daily activities. These activities require light, moderate, or vigorous effort and thus lead to improved health if they are practiced regularly (Sherrill, 1993).

Physical Education for a special needs learner will develop: Physical and motor fitness; Fundamental motor skills and patterns; and skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports). The implication of Physical education is basically to integrate all learners within instructional and extra class programs and to individualize the instructional strategies and activity areas to support the special needs learners. Some activities are more restrictive than others and some are less vigorous than others depending on the needs of the learners. The teacher in conjunction with other supporting staff have the responsibilities to decide if the physical education program requires mild, moderate or limited participation. They have to remember that there will be adapting, modifying, and changing the activity and or equipment to meet the needs of the special needs learners. This may mean, larger balls, bats, partner assistance, using different body parts,

providing more rest time. The goal is to ensure the learner is progressing and having some form of success.

However physical education instruction contributes to development of all the three behavioral domains, which are psycho-motor, affective, and the cognitive domains; hence there is a very strong interrelationship, which is inseparable among them, when the learners are interacting. During interaction the learners can acquire richer self-concept, socialization and social acceptance, fun and tension release strategies, motor skills and patterns, leisure-time skills, physical fitness, play and game behaviors, perceptual-motor function, sensory integration, and creative expression, which are the main goal areas of physical education during the lesson sessions or at the recess time.

Physical education in school will build on the skills which learners learn at home and in the community. What the hard of hearing learners learn and do at school also give learners skills to prepare themselves for their lives as adults. Most of physical education lessons in school especially for primary school level depends much on playing various sports and games which lead them to interact easily.

Physical education in school will improve the ability of learners who are hard of hearing to communicate and give them skills to lead productive life and to support their families. At school, hard of hearing learners can learn to interact through reading and writing often the only ways that hearing impairment people can communicate with people who do not know sign language or can not understand their speech. Interaction of this way can help learners who are hard of hearing understand the ideas, emotions, and experience of other people. Also help to communicate and share their thoughts and emotions.

#### **1.1.4 Hard of hearing learners**

Is a hearing impaired individual who can be identified through hearing and without visual receptive communication enough of the distinguishing features of speech to permit at least partial recognition of the spoken language. With the addition of visual receptive communication such as speech, reading, she or he may understand even more language provided the vocabulary and syntax are a part of his or her linguistic code.

The hard of hearing can be defined as ‘those children with moderate hearing losses who are still able to understand readily fluent speech through hearing whether or not amplification is used. Educationally speaking these are the children who, with some assistance, are able to attend classes with normally hearing children’.

The hard of hearing children can be defined as ‘those in whom the sense of hearing although defective is functional with or without a hearing aid’.

One of the definitions above can be the valuable part for the characteristics of the participants in this study. Which is the learner have the sense of hearing although defective is functional with or without a hearing aid. Due to this kind of learners’ ability will be able to interact and communicate with other hearing peers during physical education lessons and show their skills according to their capabilities.

Hard of hearing learners start to expose themselves in the particular situations by interacting with others from their families and friends and acquire the skills they need to live in their community, by watching how other people talk, play and work with each other, and also how to get along with others. They usually try to find and get places they need to go and use for walking, playing, riding, or driving. They learn to buy and sell, to pay bills and to get things done. They learn together wood, plant crops, fishing, weaving or sew, make hand crafts and many other skills. When hard of hearing learners interact with other hearing peers they also acquire the knowledge about their emotions and build self-esteem from the games they play with each other by using various skills and strategies on the specific or general play in school.

## **1.2 Background to the research problem**

It consists of history of special education in Tanzania, sports programmes for learners with disabilities in Tanzania, sports programmes for hearing impairment learners and sport facilities and equipment for learners (both hearing and hearing impairment learners).

### **1.2.1 History of Special Education in Tanzania**

In Tanzania special education has been supported by Non-Government Organisations (NGOs) and mostly religious organization (Mboya and Possi, 1996). For example, in 1963 Roman Catholic church established a school for the hearing impairment or Deaf. Services for learners

who were both deaf and blind were established in 1994 (Mboya, and Possi, 1996). The emphasis of education in Tanzania is Education for ALL (MOEC, 1995) as such provision of special education in Tanzania is characterized by a continuum of alternative approaches of placement (Mboya & Possi, 1996), such as special –residential, special day care, mainstreaming/ integrated boarding schools and currently moving towards inclusive education (Mmbaga, 2002). However, history of special needs education in Tanzania does not indicate how personnel e.g., teachers, dealing with learners with disabilities were trained. This may be the cause as to why special needs education is not given its due attention in educational institutions. Currently, it is only Sebastian Kolowa University college (SEKUCO) which provides a Degree course with major emphasis in Special needs education. In addition, a document presenting recommendations of the Presidential Commission on Education (Tanzania Education System 1981 – 2002) had a section dealing specifically with special education. The commission recommended that, wherever possible, learners with disabilities should be provided with education equivalent to that of other learners (MOE, 1984). However, these recommendations did not indicate strategies on how to attain them, hence, lead to teachers treating learners with special needs in the same way as normal learners. This resulted to making them fail to attain the set goals of education for all, which is also their right. Furthermore, most educational practitioners worked with the wherever possible, as there was no commitment, no intensive training that could make them aware on how to deal with learners with disabilities. This lead to children with special needs being left out of the education system which shows that is impossible to include them. Thus, to facilitate education for children with special needs there is a need to for the school to include social workers so that all learners including the hard of hearing learners are trained on skills that make them acceptable in the society.

### **1.2.2 Sport programmes for learners with disabilities in Tanzania**

Tamba's and Madai's (2000) reports concerning different sport programmes for learners with disabilities revealed that among the disabled who has been well involved are those with mental retardation. The reason is that this group has been connected to the International Special Olympic Association, which was started in United state by Shriver Kennedy in 1968. Learners with hearing impairment are also getting involved in sport like soccer and netball but the involvement has been locally, the critical problem which they encounter is lack of facilities and lack of qualified coaches. According to head of department of learners with

disability on the study, learners with hearing impairment are said to encounter difficulties in sport programmes due to lack of facilities and equipment in addition the lack of qualified trainers and physicians.

The sport development policy emphasize on the right of every individual child to participate on sport and physical education. It had introduced physical education lessons and sport programmes to institutions, such as Primary schools, Secondary schools and Colleges. For examples; learners with Mental retardation to participate to what is called 'SPECIAL OLYMPICS' where the main philosophical objective is 'let the learners with mental retardation in all areas in Tanzania come together to compete, socialize and learn social norms'.

Mboya (1997) argued that physical activity for learners with disabilities in Tanzania has a short history. However, physical education is not effectively run due to lack of clear policies towards learners with disabilities, lack of facilities and equipment, few qualified adapted physical activities educators. Although there has been significant development made in short time the service have existed, adapted physical activity service is still limited to only small percentage of people with disabilities. There is persistence of negative attitudes towards people with disability and lack of appropriate trained adaptive physical education teachers.

Possi (1999) argued that: the number of pupils with disabilities involvement in Primary school are very few in schools rather than those who remained at home without being enrolled in Primary schools. This situation explains that very few handicapped kids are exposed to sport programmes through school sport programmes.

### **1.2.3 Sports programmes for hearing impairment learners**

According to Mboya (1997), the introduction of sport for the disabled follows the trend of establishment of schools for different children and youth with disabilities. Tamba and Madai (2000) have attempted to trace the historical development of sport for the disabled in Tanzania as follows:

Sport activities for the hearing impairment has began in 1984-1985 at Buguruni school for deaf. The promotion of sports for this category of disabled learners have been through relationship between the school and Statuntonburg campus in Milton Keynes (London). The sport for learners with hearing impairment had slowly improved to the extent that between

(1998-1999) different schools formed soccer and netball teams. The maximum achievement of this group is that the Buguruni school has managed to field soccer teams for the Primary school games at district level.

It is only in recent sport history that the benefit of sports participation have began to be extended to persons who historically have had difficulty in finding ways to be involved in sport programmes (Siedntop, 1994). Winnick (1990) writes that "through most individuals with unique needs in physical education and sport remain rather obscure, some have become celebrities in the world of sport". This support the idea that learners who are hard of hearing have a much great chance of achieving a communication system like gesture-manual, speech or both and academic success than at any time in the past. There is now much broader acceptance of learners who are hearing impaired in the particular society. For example in Kirk (2006), in the past two decades an actress who was hearing impaired won a Broadway play. There was a player who was hearing impaired on a major league baseball team, and one who plays professional football. During the 2000 Olympics, Torrence Parkin, a swimmer who was hearing impaired, won a silver medal. Therefore countries in the world through both their public and private sectors make efforts in promoting sport. Those efforts are focused in establishing organisations and associations which have policies geared at boosting the sport activities to learners with and without disabilities. A good example is Norwegian Sports Federation, which has a policy of "SPORT FOR ALL" (NIF, OSLO 1991).

#### **1.2.4 Sport facilities and equipment for learners**

According to Mboya (1997) all special education programmes in Tanzania have components of physical activity. However the extent to which these activities are implemented differ according to the availability of facilities and specialised equipment. The observation made especially on progress made in provision of adapted physical activity to learners with disability was that the services provided towards adapted physical activity are very limited therefore there is need of fund in order to buy equipment and facilities. On the other hand there is a need to conscioutice the people with disability and community about the importance of physical activities for all people. Among of the problems that learners with disabilities encounter when interacting in sport is lack of facilities and equipment. Also added that facilities and equipment, which are utilized by handicapped are not matched to the needs of disabled. Then the way the National stadium is built does not consider these unique groups. In

general sport facilities and equipment for learners with disabilities are not enough and those available are not meeting their athletic needs.

According to Tamba (2000) says that positive attitude have been demonstrated by corporate organisation through sport competitions, which are usually held in national stadium and so forth.

Ndee (1993) explained that many of the open space set aside for playing different games for all ages of population were being used for other purpose leaving majority of the population with virtually no space for physical exercise. This is not only putting the future of sport in jeopardy but also indicates the passiveness on the side of the planner on sport and physical education. Kibanga (1995) in his study on Attitude of teachers college students towards physical activities revealed that there is shortage of both facilities and equipment in the various colleges studies. This shortage hinders the participation of college students in sport programmes, hence interaction reduced among the learners.

Mziray and Kitta (1996) in their study of physical education in Primary schools revealed that among the problems that have brought about the physical education in Tanzania's Primary school is lack of physical education, sport facilities and equipment. Facilities that are inadequate include space, fields, courts, pitches and gymnasia while equipment refers to sport wears, balls and other materials. Furthermore they argued tat physical education activities involve vigorous activities that require considerable space (the situation is more acute in urban than rural ares). In addition they explained that sport equipment were very expensive and most primary schools lack the fund for the purpose.

### **1.3 Purpose of the study**

The study attempts to find out how the hard of hearing learners interact with hearing peers during Physical Education lessons in the regular school situations.

### **1.4 Justification of the study**

Currently inclusive education idea is becoming public known in Tanzania Educational System. The Ministry of education recommend that each primary school suppose to register at least five children with special needs. It doesn't matter which kind of disability the child

possess but has to be registered as others in order to include him or her into the regular school. Besides, the school environment looks to be not properly equipped for all kind of learners with disabilities to be accommodated in the nearby schools, but the school has to accept each individual child.

During the physical education lesson the learners have to interact with other learners such as hearing impairment learners, physical impairment learners, visual impairment learners, learning disabilities learners and the learners without disabilities. The hard of hearing learners with their hearing peers usually participate in the physical education lessons, even though there was not enough physical education teachers for their guidance. They used to play by themselves, with limited instructions and limited caring too for their safety.

The physical education timetable is not fixed like other subjects, whereby sometimes during physical education lessons the learners are instructed to do other activities in order to cover gaps for other subjects. Therefore the physical education subject is not very important for the learners in inclusive context on many areas.

The findings of this study may be useful to the school(s), Tanzania community and others who may get the chance to read this paper, since the results will provide insight into the gaps, obstacles and strategies in the process of interaction among the hard of hearing learners with their hearing peers.

Thus, the results may be of importance to:

- i. The inclusive schools, teachers and other learners who will be able to attempt appropriate measures to reduce this isolation on hard of hearing learners during lessons.
- ii. The teachers and the particular society. They will be able to understand hard of hearing learners and help to determine which strategies are needed and would be adequate and efficient during the interaction process.
- iii. The government of Tanzania. The government may use the information for sensitizing campaigns to increase community awareness on inclusive context and for the formulation of policies concerning the importance of interacting and physical education in schools for both groups (hearing and hard of hearing learners). This would be under the big umbrella of policy makers, because they are the people within the schools and their families.

iv. The findings of this study also contribute to the existing body of knowledge by providing some insights for researchers and students in areas related to this study. Hard of hearing learners in schools are not just victims, they are also survivors. They often show incredible resilience in overcoming or living in the midst of adversity. Through interaction they would develop the strategies for caring themselves, and for friends or family members. They also run thriving out of games supporting themselves and waiting for the days to go.

## **1.5 Research problem**

“How do hard of hearing learners interact with hearing learners during Physical education lesson?”. The research problem has a major question which consists of sub-questions which will help to give some clear information to the major question.

### **1.5.1 Research question**

‘How do hard of hearing learners interact with hearing peers during physical education lessons?’

Below are some sub- questions that will support to answer the research problem above:

1. When do learners who are hard of hearing interact with their hearing peers?
2. Who initiate the interaction?
3. What kind of physical activities do learners who are hard of hearing engage in?
4. What challenges are encountered by hard of hearing learners while interacting with hearing learners within PE lessons?
5. What challenges are encountered by hearing peers while interacting with hard of hearing learners within PE lessons?
6. What opportunities for interaction does regular school provide during PE lessons for both groups of the learners. Is there any bias?

### **1.5.2 Intention of the study**

Specifically, this study intended to make observations and interviews in order to achieve the following:

- To observe the interaction between the learners who are hard of hearing with hearing learners.
- To identify the various physical activities do hard of hearing learners engage in.
- To identify the challenges faced by hard of hearing and hearing learners when interacting.

### **1.6 Limitation and delimitation of the study**

Scope wise, the study was confined to one primary school found in Tanzania. This school is inclusive school for both learners with and without disabilities. The sample comprised of 4 (four) pupils with hard of hearing, 2 (two) hearing pupils, 2 (two) host teachers for Deaf/Blind Unit and the headteacher of the school. Since the study design was descriptive case study, only a few participants with rich information were selected.

Consequently, the current study being a case study, its finding can not be generalized to all inclusive Primary schools that implement the same programme in Tanzania. This is agreement with the contention that case studies tend to examine a small number of variables (Marsh and Willis, 2003).

### **1.7 Theoretical perspectives relevant to the study**

The study is laid on the foundation of some prominent theories of education as shown below:

- Vygotsky's theory of Zone of Proximal Development.
- Vygotsky's theory of Disontegenesis.

These two theories put the child at the centre of the activity making it possible for a hard of hearing learner to benefit from an interaction.

### **1.8 Organisation of the study**

The study consists of five chapters.

#### Chapter one

Provides the introduction of the study, background to the research problem, purpose of the study, justification of the study, research problem for the study, research questions, limitation and delimitation of the study, theoretical perspectives relevant to the study, and organisation of the study.

#### Chapter two

This chapter discusses literature on hearing impairment, interaction and communication, eye contact and facial expression, play and interaction, participation of learners who are hard of hearing, opportunities for interaction, attitudes on interaction with other peers, theories concern interaction, inclusion and existing gap.

#### Chapter three

This chapter discusses the methods and procedures, which were employed in executing the study. It describes the research design, area of the study, sampling procedures and selection of informants, pilot study, data collection instruments, documentary review, data analysis procedures, validation and reliability of instruments, and ethical consideration.

#### Chapter four

This chapter concerns with the presentation and analysis of the findings which aimed at investigating the interaction between hard of hearing learners with hearing peers during physical education lessons. It consists of the brief introduction which provide some explanation about the presentations of the data and how are they will be analysed, characteristics of the children in the study, interaction between learners who are hard of hearing and their hearing peers, peer support, initiatives and turn-taking, teachers role in encouraging interaction and participation, challenges encountered during interaction, and summary.

#### Chapter five

In this chapter the findings of the study are discussed which explained the ways of hard of hearing learners interacting with their hearing peers during physical education. The discussion

is focusing on both observation and interview data and the applications of the ideas from Zone of Proximal development and Disontegenesis theories of interaction by Vygotsky. The discussion is consisting of the general concept at the introduction part on the application of the two theories of interaction; followed by Interaction between learners who are hard of hearing and hearing peers, Participation of learners who are hard of hearing, Peer support, Initiatives and turn-taking, Teacher's role in encouraging interaction and participation, and Challenges encountered during interaction; recommendation and conclusion are made which provide some possible implications for further research studies.

## **2 CHAPTER TWO**

In this chapter the study presents some of theoretical issues that are of relevance to the research topic being investigated. Interaction between hard of hearing learners with hearing learners during physical education lessons. A case study in Primary school in Tanzania. This chapter discusses literature on hearing impairment, interaction and communication, eye contact and facial expression, play and interaction, participation of learners who are hard of hearing, opportunities for interaction, attitudes on interaction with other peers, theories concern interaction, inclusion and existing gap.

### **2.1 Hearing impairment**

There are many definitions of the concept of hearing impairment. The term hearing impairment has been defined by the World Health Organization as ‘Hearing impairment is a broad term used to describe the loss of hearing in one or both ears. There are different levels of hearing impairment: Hearing impairment refers to complete or partial loss of the ability to hear from one or both ears. The level of impairment can be mild, moderate, severe or profound’.

Hearing impairment is a term used to show a hearing disability that may range in severity from slightly hearing loss, mild hearing loss to profound hearing loss. The hearing impairment encompasses the terms deaf and hard of hearing. All these people have a hearing loss but different degrees. According to the organisations representing people with hearing losses, the term Deaf and Hard of Hearing is often used, also these terms have been defined as follows:

Smith (1998) the term hearing impairment is used to describe both people who are Deaf and those who are Hard of hearing. “Deaf” means a hearing impairment that is so severe that the child is impaired in processing linguistic information through hearing, with or without amplification, which adversely affects educational performance. “Hard of hearing” means a hearing impairment, whether permanent or fluctuating which adversely affects a child’s educational performance.

#### **2.1.1 Persons who are hard of hearing**

According to Vernon & Andrews (1990) argued that the hard of hearing people constitute the largest sub-group of the hearing impaired persons. Yet these are the least understood and most neglected of all persons with disabilities. This observation may be attributed to the hidden nature of the impairment. Obviously, hard of hearing individuals have been marginalized because the impairment places them on the borderline between the hearing and those who are deaf. The hard of hearing people are not fully accepted by either the hearing members or the deaf members of the society. These people basically lack a sense of identity regarding their hearing status.

### **2.1.2 Definition of hard of hearing**

Moore (1987) defines hard of hearing as a person whose hearing is disabled to an extent that makes it difficult (usually 35-69db), but does not preclude the understanding of speech through ear alone, with or without a hearing aid. Also Vernon and Andrew (1990) define hard of hearing as an auditory impairment in which the individual can hear sufficiently (with or without amplification) to understand most but not all conversation in a one-to-one situation in which he or she is looking at speaker.

The definitions act as important influencing factors in the way in which an individual defines an object. This provides the individual's perception and understanding of an attitude towards the object in question. Triandis (1971) argued that the language which is used in definitions, has a key function in categorizing attitude objects. For example on the definitions used above, to define hard of hearing by the use of audiometric units (35-69 decibel as a function frequency), may fail to express in clear operational terms the functional hearing an individual has for speech sounds. The major limitation of definition expressed in decibel ranges is that different individuals even with the same average hearing loss usually have different audiogram configurations, which denote the frequencies of speech sounds that are affected by the impairment. But this definition will help the researcher to identify the categories of the participants in the study about their characteristics.

This study adopt the definition provided by Vernon and Andrews (1990) because they not only exclude audiometric values but also specify a number of issues about the hard of hearing learners, as follows:

- The hard of hearing individual must look at the speaker's face and mouth movement during conversation.
- The conversation will need to be in a quiet one-to-one situation.
- Although most of the conversation will be understood, the hard of hearing will still miss some components of what is being said.

Therefore, the above specifications are very important to consider for the reason that in group situations and where is a background noise, the hard of hearing person's speech perception is greatly reduced.

### **2.1.3 Characteristics of hearing impairment**

Smith (1998) provided some of characteristics of hearing impairment as follows: Turning or 'cocking' the head when listening; difficulty in forming speech sounds, lack of interest in music activities, staring at the teacher or speaker's face, reading and language difficulties, frequent confusion or misinterpretation, not responding to verbal instructions, frequency earaches and other ear complaints, lack of attention to conversation around him or her, and withdraw behaviour.

### **2.1.4 Age at onset of the hearing impairment**

Hearing loss may manifest itself at birth or later in life after the child has already acquired speech or language. This can be into two groups of hearing loss children which termed as pre-lingual and post-lingual hard of hearing. The pre-lingual hard of hearing are those individuals whose impairment was present from birth or was acquired before the development of speech and language. The post-lingual hard of hearing are those whose impairment manifests after the spontaneous acquisition of speech and language. Such an individual is less affected by the impairment that pre-lingual hard of hearing individual, that is, all the other variables being equal (Kirk, Gallagher & Anastasiow, 1986; Hallahan & Kauffman, 1991).

Since language is a major socializing factor, a pre-lingual hearing impaired child will therefore find it difficult to interact both socially and educationally with the hearing peers. Studies has shown that the earlier the hearing loss manifests itself, as it happens in the case of congenital or pre-lingual impairment, the more difficult it will be for the child to develop oral

language (Hallahan & Kauffman, 1991). The age at onset of hearing impairment may have some influence on the interaction of hard of hearing with hearing peers towards the individual learner due to communication difficulties.

## **2.2 Interaction and communication**

Interaction and communication are related though they do not carry exactly meaning as seen below. This study focuses on the interaction that takes place between learners during the physical education lessons. In this study interaction and communication are explained different ways by different people. Interaction and communication basically involve two persons or more parties. One party has effect on the other.

### **2.2.1 Interaction**

Whenever two or more people came together they tend to interact with one another. Interaction can literally be referred to as communication with somebody especiall when one works, plays or spends time together with them. When one thing interact with another, each has an effect on the other. As two people interact, each is continously interpreting, her own and the others actions. Each person reacts to and interprets the individuals act together sharing the constructions of what is going on.

Skjørten (2001) explains interaction as the mutual attention that two or more people have towards each other or towards a third person or an object. The partner focus on the same aim and they communicate verbally and/ or non-verbally. Eventually they develop into an attachment and may develop feeling of empathy. The interaction is a two way process, both hard of hearing and hearing learners influence each other, teachers influence learners by giving them instructions, directions, express their ideas, through various physical activities like during play, stimulate learner's participation on playing sessions, use of learners ideas to solve their problems, praise and encourage learners diagonise the feelings and attitudes expressed by learners or inferred from their behaviour or criticise behaviour of learners.

Eddowes and Ralph (1998) noted that interaction could be between two or more children and or adults or between a person and an object. Any of the interaction engaged in by people can contribute to their development and learning. Learners who are hard of hearing engage in

activities with their hearing peers, learn social interaction skills and improve their cognitive abilities. New roles can be practiced and they learn to share, cooperate and collaborate.

Smith (1998) observes that children can learn to take turns, share and work cooperatively as part of their daily activities. They also learn from each other to develop physical skills, promote imagination and gain a sense of competence (Hallahan & Kauffman, 1991).

Interaction can take place in many forms such as play, debates, discussions, learning and so forth. The findings of Arnold and Tremblay (1979) in Anita (1994) obtained when conducting a study examining the interaction between children with hearing impairment and hearing peers in an integrated school. They observed how children initiated interaction and responded to it. They have found that all children initiated interaction to peers in a way that was likely to obtain a positive response in order to continue with the interaction or to encourage the peer to initiate again at a later time. They have concluded that children with hearing impairment and hearing children initiate equal numbers of interaction with peers. Therefore when we address inclusive education, our goal is to seek interaction between learners with 'differences'. Interaction between learners with differences brings about a society of inclusiveness.

Peer interaction is also accomplished through the use of Language and communication. Skjørten (2001) adds that communication means the exchange of interests, feelings, thought, opinions, or information by sets of codes formed as signals or symbols which all partners can understand and handle. Therefore in communication, each partner is expected to be alert to the needs of the other to ensure that the message is effectively conveyed and understood. Then some steps involved in communication are established include attentive, looking, or listening, being motivated and able to interpret the perceived information as well as being motivated to respond.

Gearheart and Weishahn (1976) maintain that an obvious advantage of educating children with hearing impairment in regular classroom is that children need to be exposed to differences in individuals not for purposes of feeling sorry for another individual but to gain respect for, and appreciate the differences in each other. Also social interaction is a vital prerequisite for children in a learning set up (Awori, 2003). This is because the attention that children give each other is likely to facilitate the development of positive social relationships. Through social interactions, children learn to respect and encourage one another share

experiences and knowledge about one another, and above all, they discover each other's potential (Skjørten 2001). For instance, they got to know each other's interests, abilities and difficulties. This enables them to care for each other's needs in an interaction forum, because there is a likelihood of influencing the development of positive attitude towards each other.

The hard of hearing with all the degrees of hearing loss, interact infrequently with their hearing peers and engage in less linguistic and more non-linguistic interaction than their hearing peers (Antia, 1982). They have difficulties with specific aspects of interaction such as repairing communication behaviour. According to (Caissie and Wilson, 1995) state that children with hearing impairment may have trouble with specific aspects of interaction such as repairing communication breakdowns and initiating play behaviour. Although most research on peer interaction has been conducted on students in pre-school or early elementary grades, self-reports of social activity with adolescent peers indicate that these patterns persist through high school and college (Stinson & Klunin, 1996; Stinson & Whitmire, 1992).

Young and Kretschmer (1994) conducted a study to examine social interactions between a child with hearing impairment and hearing peers. They have concluded that the child with hearing impairment demonstrated successful accessing strategies which led to maintained social interaction with hearing children.

Other studies in the area of hearing impairment have indicated that some children with hearing impairment experience difficulties engaging in social interaction with hearing peers. Marschark (1993) has observed that children with hearing impairment who emerge from restrictive home environments are likely to experience interaction behaviour that differ from other children. He notes that restrictions in interpersonal interactions between a child with hearing impairment and his or her parents are likely to have a negative influence on the child's socialisation. Lederberg (1993) state that hearing impairment can cause a child to be less interested in interacting with peers whose communication is primarily through speech. However Marschark and Lederberg, Kretschmer (1994) who conducted a study to examine social interaction between a child with hearing impairment and hearing peers. They concluded that the child with hearing impairment demonstrated successful accessing strategies which led to maintaining interaction with hearing peers. Nevertheless, from what is reported above, it is clear that children with hearing impairment can hinder the establishment of positive interaction which in turn influences possibilities for interaction and acceptance.

The findings from Awori (2003) indicate that if a child with hearing impairment perceives his or her socialisation as inadequate and social ability as poor, effective interaction is not likely to take place. Hart and Gonzalez (1988) in Schimer (2001) reveal that children with hearing impairment often feel apprehensive about communicating with hearing peers and that the apprehension exhibits them and makes them feel that the interaction is less satisfactory. This finding reveals that children with hearing impairment are less able to express aggressiveness. Instead, they choose to be quiet or withdraw.

### **2.2.2 Communication**

Communication is vital for human survival. In societies, people communicate in different ways and languages. Learners who are hard of hearing communicate by speech-reading and verbal communication. In order for communication to be effective, both persons should be aware of each other's differences and needs.

Interaction between humans often takes place through communication which is the process of transmitting information from sender to receiver as well as the sender having the ability to encode (compose) and the receiver to decode (comprehend) information (Thomas, 2000). It is important that there is a feedback to the sender since communication is a two way process. When the learner talks or signals to his or her fellow, the learner understands the communication and responds. Human communication does not only involve exchange of ideas and information but it also allows individuals to form relationships and maintain their contact at every level of community/ society. Communication during the lessons should be simple and clear so that every one attending the lesson understands including the hard of hearing learners. Fontana (1993) claimed that no teacher can function successfully unless able to communicate with children at their level of communication. In the lesson or during play, there may be different levels of communication for the teacher and learners to be aware of, and hard of hearing learners may find this respect a challenge for their peers. Interaction takes place well when there is good language and good communication, the two go hand in hand (Hodge, 1993). This will be a good tool for the interaction between the two groups of the learners.

Language is the raw material for communication. It serves as the stimulus to communicate and provides the structure for our communication. Language can be verbal or non-verbal. In

order for any two or more people to communicate they must have a common language. Thomas (2000); Vygotsky (1998) consider speech to be the most important tool for communication; another such tool for communication is sign language and other nonverbal forms of communication. Speech allows representing the past and the future; Vygotsky goes further and explains how language helps to create thought in children. Example is when children have a discussion or debate on the certain kind of a game and so forth. Their interactions in social setting and the language used to shape their thinking. They use speech as well as their hands and eyes to find solutions to problems at hand. It is therefore important that hard of hearing learners are encouraged and given chance to actively get involved in activities such as sports and games.

During the lessons, learners can use nonverbal communication and speech as means of communication. Speech is the use of spoken symbols to represent language. Speech is described by Bernstein (1990) as 'an oral verbal mode of transmitted message and involves the precise coordination of oral neuromuscular movements in order to produce sounds and linguistic units'. Learners use language extensively during playtime as they naturally find or imagine themselves in different situations.

Nonverbal communication in this context refers to communication or interaction by other means rather than spoken syllables to represent ideas or meaning. Though nonverbal is sometimes silent language, it reveals so much of people's true feelings. For instance Thomas (2000) claim that it reveals fear ( by opening eyes wide and trembling), excitement and happiness (by laughing and smiling). For example when the learners were playing and one of them run after the other with a ball ahead, both of them kept their eyes on the ball insteady of talking, rather running in order to possess it and finally compete the other team or the opponents. Nonverbal language serves to emphasize conflict or deny oral language, for example after the playing sessions, if a learner said that the game was fine when on the other side you saw they lost the game when they were playing, nonverbal would be in conflict with verbal communication (Thomas, 2000; Bernstein and Tiegerman, 1993).

During playing both learners use their voice in many ways for instance: to emphasize important role in a game, worn points to an individual, control group, or reinforce/ motivation from the teachers and other audiences. Prosody means the change made by the voice such as pitch, duration, loudness, softness and rhythm. Also can be used for courage or threaten the learners; and the learners can use their voices in many ways for instance to ask questions,

wonder, show satisfaction or dissatisfaction, complain about or approve of something, and show fear when loss the game, or excitement and their daily life communication.

### **2.3 Eye contact and facial expression**

When two people are physically talking, they naturally face each other. 'Eye contact play a significant role in all interpersonal communication providing those concerned information with about each others interest and feelings' (Robertson, 1996). Eye contact reveals expressions of happiness like smiling, and expressions of sadness like frowning. However there are situations where one can pretend or act differently from what he or she actually could be feeling like. In a game situation a learner can be selected or kept in a group or in individual bases doing a role play may not be depicting his or her character.

But facing a person when is talking to is a sign of paying attention and showing respect in some communities. It shows that what one is talking about is important. 'The individual who does not make eye contact when communicates shows lack of interest or involvement in the communicative interaction' (Bernstein and Tigerman 1993). Eye contact with hard of hearing learners can sustain interaction between them in the regular school.

### **2.4 Play and interaction**

Play comes out of child's own initiative and is self directed. It is associated with enjoyment, peace, freedom and is done for its own sake (Aggarwal, 1969). Fontana (1996) look at play as a drive, just like any basic survival like hunger. It just comes automatically among children. There is a lot interaction and communication that takes place during play among peers. The children practice communication skills during play time and are actually learning while playing. They learn to control emotions, conversation, give orders, obey orders, imitate, plead and do many other things during play. In this way, play can help hard of hearing learners to learn to communicate effectively.

Play is particularly important for children's growth and development. Vygotsky considers it as a leading factor in development. It takes the child through the Zone of Proximal development (Vygotsky, 1978). Children are very much interested in play. A child therefore behaves beyond his or her average age (beyond his or her daily behaviour). Play provides children

with a pleasant emotional climate (Rye, 2001 in Johnson and Skjærten). Therefore hard of hearing learners can benefit greatly from play.

Play skills are associated with language abilities in addition to non-verbal communication skills (Bernstein and Tiegerman, 1993). It provides a platform for dynamic interaction between child-child and child-adult. Play is active and continuous. Vygotsky (1976 in Bernstein and Tiegerman 1993) argues about the importance of play in the development of children. He refers to it as a natural context for interaction. It helps children learn to manipulate their environment and control it. Children learn properties of objects and how they interact with each other through play. For instance, if they play with sand, water, or stone, they know the properties of these objects through play.

Unfortunately play is hardly practiced in most school situations. It is very common to hear teachers in school saying 'stop playing in the class; during the physical education lessons to be arranged and placed with another activities'. Parents do not want to have playful children and annoyed with a child reported to be playing in class or at school. Fortunately on the time table there is a 30 minutes morning break and 40 minutes only for physical education per week. During this time, children are playing, running up and down in the compound and are very actively involved in their own development.

Cohen et al (1997); explains that play covers a lot of children's needs namely psychological, educational, social, emotional and motor, hence an important source of knowledge, and it serves as an interactive factor. This shows how essential it is for hard of hearing learners. All in all play is a very good platform for smooth effective lessons interaction.

## **2.5 Participation of learners who are hard of hearing**

One of the indicators of social interaction is the social acceptance of children with hearing impairment by their hearing peers. Peers' perspectives are crucial in identifying the degree to which students who have hearing impairment are socially interactive; because peers have an implicit understanding of the behaviour norms for their peer groups (Coie, Dodge and Kupersmidt, 1990). Hearing peers frequently neglect students with hearing loss in ordinary regular schools. Neglected students tend not to be chosen as friends and frequently receive negative attitudes and name calling; or peers do not like to play with them. Antia and Kreimeyer (1996) found that students with hearing impairment were less well accepted than

their hearing classmates even after an intervention designed to increase social interaction and acceptance.

Boklund and Bjorklund (1988) stress that when learners both with and without disabilities participate in physical education and sport programmes they get an opportunity for social interactions outside of the classroom. They make friends and that it provides them with feeling that they are part of a group. Volkivein (1993) added that learners participate in sport and other physical activities are given an opportunity to learn values that are important in their society.

Structured learning approaches have been used with adolescents, both hearing and with hearing impairment to teach social skills. They consist of participation in modelling and role-playing. Students rehearse or practice the steps by acting out their own situations while others act as observers and provide feedback as they practice the new skills in real-life situations (Schimer, 2001). The purpose was to motivate, encourage and improve the participation of children with hearing impairment in the regular school.

Children who are hard of hearing depend heavily on their vision as a lead sense and benefit from visual stimuli. Yet this can not fully compensate for what is missed through auditory stimuli (Nielsen, 1997). An emphasis on the preferred communication modes through both vision and audition would provide a baseline for interaction and communication with children who have hearing impairment. Nielsen notes that children with hearing impairment are encouraged to participate in all activities through the use of visual stimulus.

Bloom and Lahey (1978) reveal that communication and interaction in children who are hard of hearing depend on the nature and level of hearing loss and time of onset. Most of them may not have sufficient residual hearing to enable the acquisition and understanding of spoken language. Therefore these children are likely to experience difficulties in interacting with hearing peers, especially when the interaction involves the use of spoken language. In order for children with hearing impairment in regular classrooms to learn, there needs to be a match between the skill levels of students and the learning demands of the classroom environment. Rye (2001) reveals that body contact and touching remain for most people an important way of communicating closeness, intimacy, security, love and caring. Hence children develop the opportunity to learn about the world around them and develop their abilities to succeed-

critical thinking, self-confidence, problem-solving and working with others. As children grow and develop, these skills will help them to function in their future.

### **2.5.1 Opportunities for interaction**

Regular school has a right to offer opportunities to allow routines, experiences and activities in which children will participate and interact freely. No matter what the environment, planning provides a framework in which development and learning can occur. Eddowes (1998) confirms that the act of planning help to organize thinking and also help to determine the sequence of the event that will take place in class or during the lessons. Also plans become the basis for the implementation and evaluation of single experiences as well as activities taking place during the day, week or a year. Since plans provide a course of action to follow, they should be flexible and easily changed if necessary to suit the needs of individual children since plans can assist teachers both in enhancing children's development and in meeting their educational goals.

Muvirimi (2002) explains; it is true that when different groups of people are not put together, understanding and acceptance of their attitudes towards one another can hardly be attained. Interaction promotes a positive change in social attitudes towards people with special needs. However it is believed that the extent and direction of the acceptance of children with special needs is determined by how soon the child is included. Supporting the idea of inclusion, Bowd (1992) in Nambira (1994) says that to deny any children the opportunity to learn together without segregation is to jeopardize their later opportunity of living fully with the larger multicultural society. Learning in children who are hard of hearing in regular schools is the result of interaction between the child's thoughts and experiences with the materials, ideas and people (Bredkamp and Rosegrant, 1995 in Eddowes, 1998). The teachers are able to provide emotional support, assist with skills, expand cognitive functions, model language and encourage the creative process.

More studies have advocated the adaptation to inclusion for learners who are hard of hearing, there is still much that needs to be learned and improved before successful inclusion and interaction can take place. Learners who are hard of hearing attending regular classes are still facing communication barrier and being excluded into various physical activities while interacting with their peers and struggle in the learning process.

### 2.5.2 Attitudes on interaction with other peers

The concept of attitude is very complex, and in much of the literature it is said to be very diverse. According to Allport (1935) the term 'attitude' can be defined as a relatively enduring organization of belief around an object or situation posing one to respond in some preferential manner. Shapiro (1999) defined attitude as follows: “*An attitude may be viewed as a positive or negative emotional reaction to a person or object accompanied by specific beliefs that tend to cause its holder to behave in specific ways towards its object.*” (Shapiro, 1999: p. 9). As far as interaction of learners with or without disabilities in physical education is concerned; these are various attitudes possessed by different groups as has been defined above. In this study the Shapiro’s definition will give some implications on the inclusive context, especially during the interaction between hard of hearing and hearing peers at school and when they are participating into various physical activities.

This definition is useful in that it explicitly states that an attitude can be both positive and negative and that it is an emotional reaction. Another interesting part of the definition is that it is the attached beliefs that make a person react towards another person in a certain way. Attitudes are something that every person has towards others and it is also something that every person experiences from others. All attitudes that we have or experience can be of positive or negative character. When a person has a positive attitude towards somebody else, that attitude may influence the person in a positive way and often builds up the self-esteem. But if the attitude that a person has towards somebody else is negative, that also may have an influence on that person’s life; the way he/she looks at him/herself and his/her self-esteem.

Shapiro (1999) explains in his book how important it is to change negative attitudes in a society and the way the attitudes influence people’s lives; this because there are many areas of a person’s life that become affected by negative attitudes. When all of these areas are affected with negative attitudes, it makes a big psychological impact that can result in the distortion of a person’s good self-esteem. Shapiro (1999) spells out specific beliefs within the concept of attitude that influence the way a person behaves towards somebody else. Specific beliefs can of course be related to many things, and my study, conducted in Tanzania, directly brings out that, Many people in the society do not know what to do when they see a person with disabilities, therefore they start to scream insulting words towards the disabled person or stare. The same happens when the learners interacting among themselves can lead to run away from those with disabilities.

In relation to this, she has also pointed out the fact that negative attitudes can influence their life, identity and social interaction.

*“People’s negative attitude was indicated as one of the serious problems in the education of the hearing impaired and their social life. Cultural beliefs and norms are some of the influential factors that shape peoples attitude towards disabilities. People develop positive or negative attitude towards certain social phenomena due to their social interaction in their environment.”* (Feleketch, 2000:92).

At schools Physical Education lessons for hard of hearing learners shown to be organized irregular. This is due to the fact that many of our members of society (i.e even some teachers and parents) have negative attitudes towards sport for the disabled. Possi (1990) argued that in Tanzania context there is persistence of negative attitudes towards learners with disabilities hence the situation leads to lack of motivating disabled towards participation in various social programmes.

## **2.6 Theories concern interaction**

Theories that considered the social natural settings of humans to help and support themselves on development of skills and explain how can take place through the interaction between learners with hard of hearing and their hearing peers during physical education lessons, according to this study are Vygotsky's theory of Zone of proximal development; and Vygotsky's theory of Disontegenesis.

### **2.6.1 Vygotsky’s theory of Zone of Proximal Development**

The zone of proximal development is concerned with interacting with the learner in order to help him or her. It is the difference between what a learner can do without help and what he or she can do with help. He stated that a child follows an adult or an experienced example and gradually develops the ability to do certain tasks without help or assistance. It is a concept developed by the soviet psychologist and social constructivist Lev Vygotsky (1896-1934).

Vygotsky's defined the Zone of proximal development as follows: it is 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 (Vygotsky 1978, pg. 86). This is an innovative metaphor capable of describing not the actual, but the potential of human cognition development. Is the term for the range of tasks that are too difficult for the child to master alone but that can be learned with guidance and assistance of adults or more-skilled children. The lower limit of the Zone of Proximal Development is the skill reached by the child working independently. The upper limit is the level of additional responsibility the child can accept with the assistance of an able instructor. The Zone of Proximal Development captures the child's cognitive skills that are in the process of maturing and can be accomplished with the assistance of a more-skilled person.

In the inclusive education, the teachers and other peer learners use their systematic and logical reasoning to help the learners with hard of hearing and learners with other disabilities to organize spontaneous activities in physical education lessons through concepts, and drills in order to apply certain skills. A hard of hearing learner can benefit a lot on this assistance through interaction. Teachers or physical educators who can put forward the right skill to be executed during playing, help the learner to discover the precisely used of the skill and new conceptions or thoughts, hence supporting the hard of hearing's learning and support. When the learners play and involve into various physical activities, usually collaborate with others who have more experience on the certain game or have less experience on that game. Due to this situation the learners depend on each others skill and the knowledge of the game when interacting during the physical education lessons.

### **2.6.2 Vygotsky's theory of Disontegenesis**

The theory of Disontegenesis including the dialectic relationship between primary and secondary handicapping conditions. Disontegenesis is 'theory of distorted development'. In this theory Vygotsky introduced the concepts of the primary disability and secondary disability. A primary disability is an organic impairment which the child has been born with and the secondary disability refers to distortion of higher psychological functions due to social factors. This is very important to consider into this study because the learners who already have hearing impairment and being identified seems to be hindered with their school environment on upgrading their skills in various physical activities. In the inclusive context the school has to plan the physical education lesson in order to rise the skills and talents of the hard of hearing learners rather than distort them.

Learners are helpless in implementing unknown ideas, both fascinating and mysterious; such as in physical education there is the failure on implementing new skill to the certain kind of a game when they used to play on the sports grounds or during competitions because of many unmentioned reasons. Learners used to be helpless in implementing these new ideas and skills, and also don't have enough assistance and support which lead to failure of performing the activity.

However learners are by no means helpless in organizing interaction. On their very first school-day, learners are already active and full of initiatives in applying already mastered preschool forms of interaction: playing, manipulating things, communicating and others. If the learners are not specially taught new forms of learning skills on the specific game, they will maintain habitual preschool forms of interaction. Moreover, the form of interaction affects its content. During playing and communicating learner construct different meaning while working on the same task. For this reason, adult like teachers and those who lead learners have to be alert and sensitive to a learners intuitive choice of the form of interaction. Playing is directed at the process itself, so that the final result is usually disregarded or devaluated.

## **2.7 Inclusion**

Inclusion in education involves the process of increasing the participation of all children and reducing their exclusion from the cultures, curricula and communities of local schools (Stubbs, 2002). Inclusion is an internationally recognized policy which aims at giving equal opportunities to persons who are marginalized. The inclusion of the hard of hearing refers to such persons being educated within a classroom of students with hearing (Richard, 1997). The basic idea of inclusion can be found in many UNESCO policy documents such as the Convention on the Rights of the Children (1989); The World Conference on Special Education held in Spain (1994); the Salamanca Statement and Framework of Action adopted at the World Conference on Special Education (1994) and the Quality Education (2004).

However the World Conference on Special Needs Education held in Spain (1994) gives more support to education for children with special needs in regular schools. This was brought about after realizing that children with special needs including learners who are hard of hearing were deprived of equal educational opportunities. Some other things emphasised by

this statement (UNESCO, 1994) include the right of all children to attend school, including those with temporary and permanent needs; to attend school in their home community in inclusive classes; participate in child-centred education which meets individual needs.

Different scholars and conventions have defined the concept of Inclusion contextually and operationally. Booth (1998) defines inclusion as a process of increasing the participation of learners and reducing their exclusion from their curricula, cultures and communities offered by neighbourhood mainstream centres of learning. Booth emphasised that inclusion is concerned with overcoming barriers to participation that may be experienced by any pupil.

Inclusive education means that children with or without special needs learn together in regular schools with appropriate regular programmes in their neighbourhood schools (UNESCO, 1994). Inclusive education is believed to be an interaction of all learners, regardless of their differences in regular school. This concept denies the traditional way of segregating learners who are hard of hearing from regular schooling into special education institutions. Practically this constitute a degree of separation between learners that are hard of hearing and their hearing peers. The idea of inclusive education is to provide equal and same education opportunities not only in the learning environment but also in the curriculum and assessment procedures as well. The importance of this process lies in the fact that it provides better education, understanding and acceptance to all children and that opportunities for learning are widened by sharing, interacting and developing a community of togetherness. Inclusive education despite being understood by many to a certain degree practically more effort is needed in order to succeed. This is due to lack of awareness, human resources and other educational facilities. Therefore there are unequal education opportunities for learners who are hard of hearing and they are lagging behind because of these differences.

Inclusion as a human right accounts that all children, no matter how seriously disabled they are , are entitled to education that maximizes their potential (UNICEF, 1998). Children who are hard of hearing, whenever possible should be educated in schools along with children without disabilities. Good quality in education should facilitate the acquisition of knowledge, skills and attitudes that have intrinsic value and also help children interact with their peers (UNESCO, 2004).

Educationally, inclusive school is one in which the teaching, learning, achievement, attitudes and wellbeing of every young person matters (Ainscow, 2001). In an Inclusive school, the

environment and activities are adjusted according to the needs of the pupils. Every child has a sense of belonging and should be respected for his or her difference. Therefore the hard of hearing learners should interact and communicate with each other. They should help each other to learn and to function, and be considerate to each other.

## **2.8 Existing gap**

From the above literatures none of the studies mentioned has tried to look into the interaction of the hard of hearing learners with hearing peers in physical education lessons in Tanzania. Therefore, there is a need to observe the interaction for the hard of hearing learners with their hearing peers in inclusive play grounds. Many studies have focused on analyzing attitudes possessed by different person, groups, organisations, and companies towards special education. But none of the studies conducted has observed the interaction of the mentioned groups. Hence the observer found the need to explore the lived experiences of hard of hearing learners in relation to Physical education especially on daily playing activities and specific problems which faced them. According to the sport development policy (1995) the government promised to improve social interaction for learners with disabilities through inclusive context in sport aspect but since there is no study conducted to make follow up on this policy statement, this study is important and significant.

### 3 CHAPTER THREE: METHODS

#### 3.1 Introduction

This chapter discusses the methods and procedures, which were employed in executing the study tasks. It describes the research design, sampling procedures (area of the study, sampling, and selection of informants), pilot study, data collection instruments (Observation and Interview), data analysis procedures, validation and reliability of instruments, and ethical consideration

The research questions were chosen from the interest in getting a deeper understanding on Interaction between hard of hearing learners with hearing learners during physical education lessons and the challenges they faced when interacting in inclusive situation.

The research problem is: **‘How do hard of hearing learners interact with hearing peers during physical education lessons?’**

In this research, the main question has being supported with six sub-research questions as shown below:

1. When do learners who are hard of hearing interact with their hearing peers?
2. Who initiate the interaction?
3. What kind of physical activities do learners who are hard of hearing engage in?
4. What challenges are encountered by hard of hearing learners while interacting with hearing learners within PE lessons?
5. What challenges are encountered by hearing peers while interacting with hard of hearing learners within PE lessons?
6. What opportunities for interaction does regular school provide during PE lessons for both groups of the learners. Is there any bias?

#### 3.2 Research design

This study was designed and conducted as a case study. It was thought to be the best strategy because the aim of the study was to reveal the present situation of the phenomenon under study in its natural setting, as well as attaining an in-depth understanding of the case as related to the phenomenon in focus (Gall, et al, 1996; Yin, 1994).

*“A case study is done to shed light on a phenomenon, which is the processes, events, persons, or things of interest to the researcher. Example of the phenomenon are programs, curricula, roles, and events. Once the phenomenon is clarified, the researcher can select a case for intensive study. A case is a particular instance of the phenomenon”*(Gall, et al, 1996: 545).

The phenomenon under study was the interaction of hard of hearing learners in physical education lessons. The case in this study was the situation of hard of hearing learners when interact with their hearing peers in inclusive context. The source of information in this study were four learners with hard of hearing, two hearing peers, two special needs teachers, and the head teacher at the school.

*“...the case study as a research strategy comprises an all encompassing method-with the logic of design incorporating specific approaches to data collection and to data analysis. In this sense, the case study is not either a data collection tactic or merely a design feature alone (Stoecker, 1991) but a comprehensive research strategy”*(Yin, 1994:13).

According to Kothari (2004) research design is categorized as explanatory, descriptive and diagnostic and hypotheses testing. Due to the nature of the study, the researcher adopted a descriptive research design since it minimizes bias and maximizes the reliability of the evidence collected. Also descriptive design is concerned with describing the characteristics of a particular individual or a group of individuals and it determines the frequency with something to occur.

The case study has been used in order of getting into the specific setting (natural setting) of the interest concerning the interaction of the hard of hearing learners with hearing peers during physical education lessons. The researcher felt that the activities could be best understood in the actual setting in which they occurred. Frankel and Wallen (2000) argue that qualitative researchers feel that human behaviour is vastly influenced by the setting in which such behaviour takes place and hence, whenever possible, they visited that setting. The natural setting was the direct source of data, the researcher was the key instrument and the data were

collected right at the scene, supplemented by the researcher's observation of, and insight into what occurred.

The important of research design was needed in order to facilitate the smooth sailing of the various research operations (Kothari, 1990). It also helps in carrying out research validity, objectivity and accuracy (Tripathi, 1999). It is the general blue print for the collective measurement and analysis of data. It includes an outline of what the research will do, from writing the objectives, their operational implications to the final analysis of data. Hence the research design provides answers to various questions, such as what data are needed and how will these be gathered. It acts as a standard and guide post which helps the researcher measure his or her shortcomings.

### **3.3 Sampling procedures**

#### **3.3.1 Area of the study**

The study was conducted in Tanzania within one of the Municipality in Dar es Salaam. Mwakaheya (1996) emphasizes that Dar es Salaam is the most populated area with economic, political and cultural centers and receives many migrants from all over the country and also nearby countries. The city also has good infrastructure, recreational centres and good number of industries and other commercial activities. These could be a greater attraction for the number of schools which are inclusive schools to be built, compared to other towns in the country. So, talking to hard of hearing learners in Dar es Salaam was like talking with these learners from different areas in Tanzania or else where.

#### **3.3.2 Sampling**

The researcher decided to use purposive sampling rather than the other sampling technique because of the kind of the study, which by its nature was qualitative study, which needs respondents' views, thoughts, opinions, ideas and insights. Purposive sampling is the technique mostly used in qualitative approach, which is necessary when the researcher is interested in certain specific characteristics, so that only members with such characteristics were selected (Keya, Makau, & Omari, 1989). Purposive sampling involves a deliberate

selection of particular units of the universe for constituting a sample which represents the universe (Kothari, 2002).

In order to meet the objectives of the study and get relevant information, the researcher selected few respondents who were available, and this included the hearing impairment learners who were ready to be observed, hearing learners and some of the teachers who were interviewed and who were potentially rich in information, as according to Miles and Huberman (1994) are those from which one can learn a great deal about issues of central importance to the purpose of the research.

### **3.3.3 Selection of informants**

The informants were hearing impaired learners, teachers, and hearing children. The informants were selected on the basis of the following list of criteria that were constructed for the study purposes:

Both hearing impaired learners and hearing learners, whom there were boys and girls studied at school with the classes ranges between grade four and grade seven in the inclusive school. Their ages were between 10 years old and 17 years old, as their characterized on 4.2. Also they had to be at school atleast more than a year, which will be better for them to interact freely since they were aware with their school environment.

The researcher made observation on the four of the hard of hearing learners with their hearing peers during physical education lesons, then she made the interview with the same questions to the two hearing peers and three of the teachers in that school on the different situations not during physical education lessons on (appendix 8 and 9). Unfortunately the school under the study was a boarding school where by the parents were very far away from the school, insteady the teachers were like their guardians to each of the learner in that school. Therefore the teachers took the total responsibilities of the learners insteady of their parents when they are at school, as shows on (appendix 6 and 7).

In qualitative research it is common to use few informants. I made a purposive sampling under these selected these criterions because they could give a proper variation of information and answers to the questions. The sample included both hard of hearing impaired learners and hearing learners whom were selected from one school in the selected Municipal.

- The informants were 4 ( four), who were hard of hearing learners; and their age range between 10 years to 17 years. This was the group which I did an observation on them as their characteristics explained on section 4.2.
- Also 2 hearing learners and 3 teachers were interviewed in order to get more information about their interaction during physical education lessons with their peers, who were hard of hearing learners.

### **3.4 Pilot study**

A pilot study was not carried out as planned because of uncontrolled situation for the participants who were involved. One of the participants involved in the pilot study felt sick, this happened suddenly on the field when playing with others. It took long time for her to recover hence led to stop doing pilot study. Then the time was so limited to wait for another procedures to conduct it as how it was supposed to be. Then the researcher decided to go into the field in order to have enough time for data collection, since then there was no way it could be possible to conduct the pilot study. Therefore the pilot study failed due to sickness of one of the two participants and the time limited for the rest of data to be collected.

Due to failure of the pilot study, the researcher decided to observe the participants under the study more than three times in the different sessions, so that could get the clear information. By using the same questions for data collection the observation was used to observe the hard of hearing learners; and interview was used for the hearing learners and the teachers to clarify the situation of interaction between the hard of hearing learners with their hearing peers during physical education lessons.

### **3.5 Data Collection Instruments**

The data were collected by using the qualitative interview and observation. The data collected were in the form of words and the narrations described what a particular situation or view of the world was like. Therefore, by using this method, the main purpose of the researcher was to probe deeply and analyze intensively the life cycle of the selected case where by within there are hard of hearing learners. Operating from this perspective, it was possible for the researcher to enter into the respondents' personal world in order to gain a deeper and clearer

understanding of their experiences, feelings and perspective through observation and interview.

In acquisition of data, various methods and instruments were developed. The instruments employed distributive ways of describing and quantifying data. Each method or tool was used depending on its appropriateness for certain sources of data; yielding information of that kind and in the forms that can be used most effectively.

The choice of data gathering techniques or instruments depended on how they could serve the purpose of the study posed by the particular research task. Thus, there was no single technique that could be claimed to be better than the others in data collection. They all depended on what was being studied and what was to be found out (Frankel and Wallen, 2000). These multiple methods include observation and interview.

In this study, therefore, a combination of instruments or techniques were employed when collecting data for the aim of finding out the interaction between hard of hearing learners with hearing learners in physical education lessons. Two methods of data collection were used to get reach information from different sources. The purpose of using two instruments was also to secure validity and reliability of the data. This can be explained as follows on section (3.5.1 & 3.5.2)

### **3.5.1 Observation**

According to Gall, Gall and Borg (2007) the advantage of observation in qualitative research is it helps to obtain the real data directly from the social and physical environment of the informants being studied. If used properly it provides reliable data; however, it is time consuming. Selected observations in a researcher's report provide a more complete description of the phenomena than wouldn't be possible by just referring to interview statements or documents. Just as important, observations provide an additional source of data for verifying the information obtained by other methods.

Observation draws on the direct evidence the witness has (Cohen, Manion, & Morison, 2000). In the cause of making observation it can either be participant based, where by the researcher becomes part and parcel of the community he or she wants to study, or non-participant observation, where by the observer can be in the community targeted by only observing what

is happening. Specifically, the researcher used participant observation to gather information during physical education lessons.

The observation is based on how learners with hard of hearing and hearing peers were interacting during physical education lessons in the inclusive situation. It is focused on how hard of hearing impaired learners interact and participate during play, extra-curricular activities, and sport. Some key points were developed from each question on study prior to the fieldwork to be used as guide for observation.

The key point which has been observed were: the onset of interaction (time which they were showing the element of interaction), initiative and turn-taking, kind of physical activities, challenges encountered during interaction, opportunities (chances on physical education) and the peer support on this interaction processes. All this has been done in the playing ground where the learners met together and sharing with various games and play sessions.

The informants being observed were four hard of hearing learners whom were M, B, Z, and M (these are their pseudonyms because of the confidentiality). Physical education lesson was conducted during the morning session. A total of 14 lessons with 40 minutes on each lesson were observed. The hard of hearing learners were observed in fourteen weeks, when the learners were at the playing ground, at the soccer pitch or netball pitch and so forth. Observation was conducted and noted on observation note book (record sheet) when the learners were involved themselves in physical education lessons.

Each learner has been observed three times in three different sessions, the session consists of 40 minutes in each session. Within 40 minutes the researcher had 10 minutes to 15 minutes observation, and noted the behaviour which was observed from the participant under study according to the key points. Then there was five minutes break, after that the process continue to the rest of the lesson as planned above. This has been done for all of the four hard of hearing learners.

Then the aspects of the school and the classroom such as the physical setting of the pitches or field of play, facilities, activities which the hard of hearing learners involved, interaction and participation are observed and noted down on the note book.

### **3.5.2 Interview**

Cohen, Manion, & Morison (2000) regards an interview as an exchange of views between two people on a topic of mutual interest and emphasizes the social context of research data. It is a research instrument and involves the collection of data through verbal interaction between the interviewer and the interviewee. Interview provides a chance for the informants to expand on their ideas, explain their views and identify what they regard as crucial factors. The method has a disadvantage in that the analysis of data can be difficult and time consuming.

Interview was the supplementary method of data collection method used in this study. As Gall, Gall and Borg (2007, p. 228) stated that the advantage of interview is its adaptability; skilled interviewers make an effort to built trust and rapport with respondents thus making is possible to obtain information that the individual probably would not reveal by any other data collection method and also can follow up a respondent's answers to obtain more information and clarify vague situations. Two hearing peers, two special needs teachers, the headmaster of the school were informants of the study and interviewed separately by the researcher after the observations were completed. Interview guide with list of questions were prepared before the field study. The interview guides were translated into local language i.e. Kiswahili. These questions were open ended and unstructured that means other relevant questions rising during data collection and on site-analysis were included. The interview was recorded by audio tapes. In order their convenient the interview were conducted and tap recorded in the laboratory room which was non functional during their free time. The length of time for the interview was taking from 25 minutes with 5 minutes break. The pupils have been iterviewed once as well as the teachers. The interview with the head master of the school was conducted in his office and took 1 hour (60 minutes). Two hearing students were interviewed whom were the member of the class which hard of hearing learners integrated during various lessons for the purpose of getting in-depth information concerning the study.

### **3.6 Data Analysis Procedures**

Data analysis is a process, which implies editing, coding, classification and tabulation of collected data (Kothari, 2004).

The researcher was able to present the information collected in a descriptive form. Thus, in a search for understanding, the researcher did not attempt to reduce the data to numerical symbols, but sought to portray what was observed and recorded in all its richness. Hence,

nothing of significance was ignored. Frankel and Wallen (2000) argue that, in qualitative research, no data are trivial or unworthy of notice.

Bogdan and Biklen, (1992) explain data analysis as a systematic process involving working with data, organizing and breaking them into manageable units, synthesizing them, searching for patterns, discovering what is important and what is to be learned and deciding what to tell others. The data collected were qualitative in nature. The researcher formulated coding categories into manageable units of sentences or phrases, according to the research questions.

The data collected through observation and interview by the help of field note, and audio tape recorders, were analyzed qualitatively using the interpretational method of data analysis. Gall, Gall and Borg (2007) defined interpretational analysis as the process of examining case study data closely in order to find constructs, themes, and patterns that can be used to describe and explain the phenomenon being studied.

The process of data analysis in this study was undertaken during and after the data collection. The collected data is converted into written forms to be ready for coding and categorizing. The result of the interview from two hearing peers, two special needs teachers, and the headmaster of the school were transcribed and translated. The interview was conducted in the local language (Kiswahili), transcribed from the recorded tape and was translated into English. All the information collected from different participants through the above described multiple methods were coded to identify themes and patterns. The transcription and translation of the data was carried out immediately after the data collection. Due to the ethical issues the name of the participants and the school is replaced by another name (code name).

Data analysis as explained by Huberman and Miles (1994) that there are three approaches of data analysis. These approaches are Categorizing strategies such as coding and thematic analysis, Contextualizing strategies such as narrative analysis and individual case studies, and memos. This study followed the process of coding and categorizing. Huberman and Miles (1994) explained that the goal of coding in qualitative research is to 'fracture' the data and arrange it into categories that facilitate comparison between things in the same category and between categories. The observation data were noted to the memos and then carefully studied, coded and categories were identified. The categories were derived from the collected data, literature review and from the research questions.

The qualitative analysis approach allows the researcher to gain deeper and clear understanding of the respondents' personal knowledge, experiences and feelings (Best and Kahn, 1992). To this study through interview, it enabled the respondents to provide their personal experiences and views in their own words concerning the interaction between hard of hearing and hearing learners in physical education lessons.

Coding of the findings have been done by observing the participants and collected data under the study. The coding procedures was done on the participants pseudonym (nick names, whereby the abbreviations will be used for coding); and their characteristics which included the background of the participant. This has been done as follows: names of the participants has been coded in the observation data as follows M is a hard of hearing girl, (B, Z, and Mo are the hard of hearing boys respectively), O-observation, Lines, observation, participant (example: IOM respectively); and on the Interview data ( I-Interview, T-Teacher; Sn-Special needs, 'a' and 'b' are the two Special needs teachers and the pupils, were who participated in the study, H-Headteacher, and HL-hearing learner. Therefore, the above are the coded information which will be used on the presentation, analysis of the findings and on the discussions.

Categorizing of the findings have been done by observing the themes and patterns of the participants and collected data under the study. The categorization of the observed behaviour from the observation and from the interview information has been noted. The themes and the patterns used were the key points from the targeted research questions under study which involves the time which hard of hearing learners interacting, initiatives and turn-taking, the kind of physical activities engaged in, the opportunity for interaction, challenges that they faced during interaction, peer support during interaction; and then the involvement of the teachers when hard of hearing learners and hearing peers interacting in physical education lessons.

### **3.7 Validation & Reliability of the Instruments**

Validation of instruments refers to the quality of data gathering instruments or procedures which measure (Kothari, 2004). Bogdan and Biklen (1992) contended that, in qualitative research, reliability can be regarded as a fit between what the researcher records as data and what actually occurs in the natural setting that is being researched. Hence a qualitative

researcher needs to strive for replication in generating, refining, comparing and validating constructs. Such replication might include repeating the status position of the researcher, the choice of respondents and the social situation and conditions.

In this study to ensure validity and reliability of expected data, research supervisors approved the above discussed instruments after being refined and modified according to the purpose and the research tasks and questions with references to the conceptual framework; i.e this was done with coordinator during the seminars sessions at Oslo University; Norway and being restructured by the supervisor when the researcher was in the field; Tanzania.

Also the researcher tried to make the research questions and interview guides specific enough to be answered by the informant. Pilot testing gave a chance to check and recheck the perfection of the instruments and made proper correction, but it couldn't be fulfilled in this study because of the sickness of one of the informants whom were intended to participate in to the pilot. To obtain accurate data, tape recorder was used during interview and during observation the memos were used for field notes which after completed each observation session, immediately followed the proper writing so as to keep the correct information, then each hard of hearing has been observed three times in three different sessions.

### **3.8 Ethical Consideration**

Data collection in case study research poses various ethical problems. An interviewee might experiences unexpected emotional difficulties as a result of expressing deeply held and perhaps controversial beliefs and feelings to an interviewer (Gall, Gall & Borg, 2007). It is very important to make ethical considerations to better protect the right of the participants. In order to undertake the study in an ethical manner, the following ethical principles were included into the research process:

Getting permissions from University of Oslo, Norway provided the research permit to carry out this study. The permit enabled the researcher to get a clearance from the Ministry of Education and Vocational Training, one of the Municipal in Dar es Salaam region to conduct the study in the area, the school administrator, and teachers (guardians) as on appendices (1 to 9).

During the meeting the researcher explained carefully the intention of the study. This enabled them to after understanding about the purpose and significance of the study and were informed who will get access to the data.

The participants were informed that their identities remain confidential. Despite of the official permission to conduct research, confidentiality were maintained as it obviously touched the freedom of respondents. Confidentiality was considered by assuring participants, that all issues discussed remained between the researcher and the participants that was, all the information anonymous and that the respondents would not be mentioned anywhere by their names or any identified information. For instance, they were told that no one would be identified as the interview guide questions did not ask for their names to be recorded as the researcher was taping, but the coded abbreviations were used for data analysis and report writing after the field work.

The study was carried out with respect and concern for the dignity and welfare of the research participants. The instruments were administered without interfering the school daily timetable.

## **4 CHAPTER FOUR: PRESENTATION AND ANALYSIS OF THE FINDINGS**

### **4.1 Introduction**

This chapter deals with the presentation and analysis of the findings which aimed at investigating the interaction between hard of hearing learners with hearing peers during physical education lessons. It consists of the brief explanation about the presentations of the data and how are they going to be analysed, characteristics of the children in the study, interaction between learners who are hard of hearing and their hearing peers, peer support, initiatives and turn-taking, teachers role in encouraging interaction and participation, challenges encountered during interaction and summary.

The study has been conducted in inclusive primary school in Tanzania, and the data have been obtained through observation and interview methods. The findings have been analysed with some theoretical ideas that considered the social natural settings of learners to help and support themselves on development of skills and explain how can take place through the interaction. Some ideas which have been borrowed from Vygotsky's zone of proximal development and disontegenesis theories in order to support their physical activities during interaction (see next chapter).

This study was limited to one inclusive primary school for pupils with hard of hearing and hearing pupils. In order to get the findings the following participants were involved; four learners with hard of hearing, two hearing peers, two special needs teachers and the headteacher of the school. Two methods were used for data collection; observation and interview. Observation was used to observe the hard of hearing during physical education lessons and interview was used to interview the hearing peers, teachers and the headteacher of the school in order to get more information of the existing situation of the hard of hearing in the school.

Data analysis started by each source of information being critically analyzed on what was observed, interviewed and written about the phenomenon and focus of the study. This was later followed by the cross analysis about the sources of information on a certain theme/ category so that similarities and/ or differences were to be revealed. This gave a way on organisation and presentation of relevant data for this study.

Coding of the data have been done by observing the participants and collected data under the study. The coding procedures was done on the participants pseudonym (nick names); and their characteristics which included the background of the participant from observation and interview data. This has been done as follows: names of the participants has been coded in the observation data as follows M is a hard of hearing girl, (B, Z, and Mo are the hard of hearing boys respectively), O-observation, Lines, observation, participant (example: 1OM respectively); and on the Interview data ( I-Interview, T-Teacher; Sn-Special needs, 'a' and 'b' are the two Special needs teachers and two hearing learners respectively who participated in the study, H-Headteacher, and HL-hearing learner. The above are the coded information which will be used on the presentation, analysis of the findings from observation data, and the discussion (which would be discussed on chapter five of this study).

Categorizing of the data have been done by observing the themes and patterns of the participants and collected data under the study. The categorization of the observed behaviour from the observation and from the interview information has been noted. The themes and the patterns used were the key points from the targeted research questions under study which involves the time which hard of hearing learners interacting, initiatives and turn-taking, the kind of physical activities engaged in, the opportunity for interaction, challenges that they faced during interaction, peer support during interaction; and then the involvement of the teachers when hard of hearing learners and hearing peers interacting in physical education lessons.

The informants being observed were four hard of hearing learners whom were M, B, Z, and Mo, (these are their pseudonyms-codes for the aim of confidentiality). Physical education lesson was conducted during morning sessions. A total of 14 lessons with 40 minutes on each lesson were observed. The hard of hearing learners were observed in fourteen weeks, when the learners were at the playing ground- playing with toys, at the soccer pitch or netball pitch and so forth. Observation was conducted and noted on observation note book (memos) when the learners were involved themselves in physical education lessons.

Each learner has been observed three times in three different sessions, the session consists of 40 minutes in each session. Within 40 minutes the researcher had 10 minutes to 15 minutes observation, and noted the behaviour which was observed from the participant under study according to the key points. Then there was five minutes break, after that the process continue

to the rest of the lesson as planned above. This has been done for all of the four hard of hearing learners.

Then the aspects of the school and the classroom such as the physical setting of the pitches or field of play, facilities, activities which the hard of hearing learners involved, interaction and participation are observed and noted down on the note book (memos).

The presentation is given in form of coding and categories so that it is possible to see how the interaction between hard of hearing learners have been done with their hearing peers. Some of the data which have been gathered through interviews are used to introduce characters.

#### **4.2 Characteristics of the children in the study**

M: She is a girl, aged 15 who is hard of hearing and in grade 4. She was born without any hearing problems. After a while she was sick seriously and became hearing impaired. No one knew her deficit until she was attending school. During teaching and learning interaction at the class, then the teacher knew that she had hearing problems because she was not aware of what was going on in the class at all (therefore the teacher observed her condition). The teacher had to speak with her so loudly and facing her, then M responded by talking with steps not fluent speech like other peers, without clear pronunciation of the simple words, even difficulty words, and nodding her head for yes or no.

She can get high pitch (when she interact with others, they have to speak loud and to very a near distance from her). The communication process with her was poor, and she used to be idle; only responding mutually and rarely loudly speech, non-verbal and express herself a bit in spoken language but she has difficulties in catching up with what her peers and teachers said when they are distant from her. In daily activities, she is very highly socialized, perform well in the class according to her moderate hearing loss condition. Also interacting well with others, handling things, during play and so forth.

B: He is a boy with hearing impairment, aged 10 and in grade 2. He has been in that school four four years, because he started the kindergarten in the same school two years before joined to primary level which is in grade two now. He has suffered from severe hearing loss since childhood. The cause of his auditory loss is unknown. He usually used loud voice on communication, gestures and sometimes sign language. It is difficult to communicate with

him in a normal environment; unless they speak too loud and face-to-face for him to get access for the lipreading. He is on the way to special school, because of his auditory ability is becoming worse and worse, the teachers and parents agreed up on that its better for him to join special school in order for him to get more support on his deficit especially sign language and be able to handle his studies later in his life.

The learner used to play by himself and interact with other peers as long as he felt to do so, at school during the recess time and during the physical education class. He usually tried to respond on the music vibrations and communicate with others by speech in a very hard way of pronouncing the words which has meanings, smiling, and it is very difficulty to understand him if the listener is not attentive and focusing on his speech.

Z: He is a boy, aged 17 and in grade 6, and has a mild hearing impairment. He shared the class hard of hearing and other hearing peers; during the physical education he interact with many other groups in different classes. First check up was 2007 at Kilimanjaro Christian Medical Centre (KCMC) which is located at Moshi Kilimanjaro (that's when he observed to be hearing impaired child). He has had hearing loss after having some speech, that was when he was grade 4. Though the cause of his hearing loss is unknown, he is able to express himself in spoken language but also had difficulties in catching up with what his peers said at a distance situation. He is using the hearing device (aid) which is adjustable device but some times he forgets to use it.

Mo: He is a boy, aged 17 and in grade 6, the same class as Z. The Data for his hearing impairment was not cleared specified. This means that the school didn't have the proper information about his hearing impairment although he explained to his teachers about the conditions he had before. He explained that, he got hearing impairment when he was in grade six at the previous school. This happened after getting a very high fever but the parents didn't take him to the hospital. When they decided to take him to the hospital it was worse. Then the doctors gave him medication for the disease but Mo was not aware of specific disease which was disturbing him neither did parents tell him. After finished his medication, he wasn't able to hear any kind of voice or to speak. But later he started to hear some words when somebody speaks loudly. He became very lazy to respond on the speech. Then he started to train himself and the relatives helped him. But the people who knew him before thought that he became a naughty boy after being recovered from the disease.

This condition and assumptions disturbed him a lot, but now he is used to the situation especially after being included in that school. He is fond of sports and games, even though he became so easy to manage and became highly interactive in such a way that, is not easy to identify him as hearing impaired learner.

Generally, the hard of hearing child has the hearing loss which results in language skills that are not age appropriate. Also the speech production for an impaired auditory system child decrease the ability to self-monitor production of speech. The child's social competence decreased or reduced due to communication barrier where by the communication ability interferes with development of age-appropriate social skills.

#### **4.3 Interaction between learners who are hard of hearing and their hearing peers**

Interaction is the mutual understanding and attention between two or more people. It is characterised by individuals providing and sharing ideas, co-operating with one another, challenging each other's conclusions and reasoning in order to promote higher quality decisions. In this study learners were observed while they were interacting during physical education lessons. In the playing ground learners were interacting using verbal and non-verbal communication (like gestures, and eye contact, facial expression), especially when communicating with hard of hearing learner.

The researcher used the naturalistic observation and the interview as explained on (3.5.1 and 3.5.2) respectively, where the observation was carried out in the learners usual surroundings. This allowed the individual learner to carry out tasks which he or she was normally carry out without any structuring being attempted by the researcher or the observer. With all observations, there is a certain amount of essential information which must be included on observation; and these are attention, initiation, time to take turn during playing, mutual understanding, opportunities, communication, verbal/non-verbal, listening, gaining respect, appreciation, creativity, motivation, attitudes expressions, interpretations, feeling of empathy, cooperation, and collaboration.

During the Physical education lessons the hard of hearing learners join and interact with others in various games. They used to go out both hearing and hearing impairment learners. They used to play together some games such as playing with toys, soccer, running, skipping,

cards, and other kinds of games at their age, although there were some games under their age. As explained by SnTb from the interview :

*“... Kinds of physical activities they used to participate are soccer by using normal ball and all games which they can see; they used to play like soccer, running individually or in groups and swinging games. So they used to check time limit by themselves which almost controlled by their group leaders”.*

Then another information from H is that, they used to play, *“Ball games, cards which is a part of traditional games, dancing, musics which they usually play together, by looking how others they do and sometimes if the music was loud they could hear some vibrations. e.g on the concerts they used to follow vibrations as the music played. Others are playing as they watch on Tvs and so forth”.*

A case in point is observation number one of an interaction in which M was observed as she interacted with her hearing peers. In this observation the referee was controlling the group by giving them instructions to follow so that they could have nice game and play control for those who were not the member of the selected game.

101Referee: Prii..... come on arrange yourself, pointing to the line in front of him.

201M: sitting out of line holding a plastic toy.

301Referee: If you are out of line, you are not our member.

401M: still rolling the toy on her hands.

501Referee: can you hear me?!!!!

601Peer: hold M's shoulder behind her.

701M: Screaming.....mmmmm...do—t tou---me!!!

801Peers: following her, sitting down like M.

901M: Smiling...smiling...

1001Peers: Picking some blocks and throw in front of M.

1101M: standing up, fast collecting the blocks.

1201Peers: competing, collecting the blocks (red-red, blue-blue, circle-circle, square-square).

1301M: pushing them, a..a..aaaa..aa, miiiiii..ii, oh..oooo.

1401Peers: finding the pair of the blocks.

1501M: holding three pairs correct.

1601Peers: looking at M.

17O1M: laughing...., laughing..

18O1Peers: oh, its hard to get a pair, how did you get them????

19O1M: showing them the blocks which is on her hands, laughing... leaving the group.

20O1Peers: M..M..M.. is your turn, a winner.....!!!!

21O1M: looking at peers, smiling, holding her toy and three pairs of blocks.

In this observation M was interacting with her peers using different means of communication, like gestures in (line 2, 4, 9, 17 and 21). She also reacted to her peer through screaming in (line 7 and 13) and body language in line 11. For the most part of the playing sessions M was too much occupied playing alone or with peers in line 2 and 12, she was not aware and made follow-up of referee's instructions.

After the referee whistled and provide the instruction M was sitting out of the line, but later all of the group joined her and play with her in a very strange way. It became the opportunity for her to play and interact with her group members. The communication between them was dominated by gesture and eye contact rather than by verbal communication. In a move to initiate the play, M started by sitting out of the line when holding a plastic toy on her hands and observed to be so lonely on line 2. A hearing peer came and hold her shoulder but she screamed, she didn't want to be held in line 6 and 7. Immediately some of the hearing peers following her and sat down as how she was sitting. Other group came and throwing the block toys with different colours infront of them. The game continue on selections of the right match of the blocks (line 8, 10, 11, 12, 14 and 18). M was very attentive on her selection, until she got correctly the three pairs of the blocks and came out a winner of that day (line 15, 19, 20 and 21).

On the same observation number one, focused on B and other three hard of hearing and hearing learners engaging in a different kind of toy games (play with snake toy), B equally and actively interacted with his group members as they were afraid, running and supporting each other to go against B. Below is an example on his group's interaction during physical education lesson.

22O1B: fighting with peers.

23O1Peers: taking him out, ..pushing him, go back to the class.

24O1Referee: Prii- stop B, you will be punished by the teachers. We are going to report your behaviour to the teacher.

25O1B: withdrawing from the game.

26O1Peers: its better....!!!!.

27O1B: running towards the goup, holding the snake toy...

28O1Peers: What!!! Running away from B.

29O1B: throwing the toy towards others.

30O1Peers: Maa, maamm, mama...no..no..teacher,..teacher..!!!!

31O1B: Running, pulling Mo.

32O1Mo: aarrrr....do—t, to---ch, arrrraa.

33O1B: Hidding the toy.

34O1Peers: Z, M, & Mo running towards B.

35O1B: taking small toys; ..touching Z & Mo, screaming mmmmm....

36O1Z & Mo: crying

37O1B: happily, going away from them.

44O1Mo: screaming; running.

45O1Peers: following him.

46O1Mo: fighting with peers.

47O1Peers: sowing Mo the snake toy.

48O1Mo: screaming; running to the other side.

49O1Peers: following Mo.

50O1Mo: pointing to the snake toy, pushing others.

51O1Peers: frightening Mo.

52O1Mo: taking the hidden toys, helping M & Z; against B.

53O1B: fighting; grabbing all the toys; ....throwing them to M & Z.

54O1M & Z: frightening.

55O1B: putting the toys on the shelf.

56O1Mo: sitting a distance from peers.

The playing behaviour of B was obviously the problem to the group members. He usually likes fighting with peers as in line 22, running towards others and frighten them (line 27, 29, 30, 31, 32,35 and 36). The same behaviour when playing has been expresse by Mo, as on line 46. He became very happy on this as in line 37, then when the group joined and fight against him, he withdrew from the playing situation (line 25).

When the group member were arranged themselves by selecting the peers to play with, B was running towards the group seems to be ready to join the game. Suddenly, he started fighting

and no one in the group has been aware of his needs. The peers joined together and pushes him out of the group, talking by themselves to B that he has to go back to the class. After that situation, he withdrew from the game. This situation was a relief for the group, but few minutes later he came up with the snake (toy) on his hand and started to frighten all of the peers. They were afraid of that toy and others screamed and cried. This condition raise the collaboration among peer and Z, M and Mo to act against B, finally B succeeded to be happy and left Z and Mo crying.

Another example is the observation between Z, a learner who is hard of hearing, and his peers (hearing learners). He has the behaviour of making noise, which he usually enjoyed by doing that according to his feelings but for his peers was the problem.

38O1Z: shouting! Shouting!

39O1Peers: looking at Z, whats happening?

40O1Z: looking very happy, laughing, nodding his head.

41O1Peers: too much noise! Looking frustrated, throwing their hands up, pointing their fingers towards Z.

42O1Z: running away from them.

43O1Peers: running to their classes.

In this observation Z and his peers were interacting using verbal and non-verbal communication line 38, 39, 40 and 41. Then Z understood some infomation from peers through lipreading and eye contact as the case in line 41, after that mutual understanding he ran away from them in line 42.

From the observations, Z seemed to be a shouting boy and very attentively on his behaviour. He mostly used gestures, eye contact, lipreading when interacting with other peers. Whenever he observed that the peers were annoyed with what he was doing, he was ready to run away from them for seconds and then came back to join them.

The observed in the study learners who are hard of hearing could express themselves through verbal communication in rarely cases by mention some word when they demanded something through shouting, sreaming but most of the time they used non-verbal communication. Particularly lipreading enabled to understand what their peers and teachers communicated to them. During their playing sessions, some of their hearing peers talked loudly and used non-verbal communication such as gestures (like pointing with their fingers when provided some

instructions on settings of the game, smiling, laughing, and eye contact), which facilitated their active participation in physical education lessons. According to the observations, the learners who are hard of hearing and their hearing peers, both play a role in initiating interaction and they also make good contributions during the interaction. Despite the fact that some of them expressed some behaviours which needs modification in order to be accepted within the group during physical activities or other lessons.

#### **4.4 Peer support**

Peer support involves learners helping one another. It was during their physical education lessons, when playing together learners who are hard of hearing and their hearing peers support one another.

The observation number three, concerning B with other hearing peers while they were in the playing ground playing football. He started marking and pushing his opponent, which end up with fighting. The peers saw them and went into the playing ground for helping them from fighting, so they departed B from his opponent.

19O3Referee: Priii...start!!

20O3Opponent: following the ball.

21O3B: marking the opponent.

22O3Opponent: shouting to B; you move.....; move away from me; don't touch me!!!

23O3B: touching him, pushing the opponent.

24O3Opponent: pushing B.

25O3B: returning the push.

26O3Opponent: fighting with B.

27O3B: fighting with his opponent.

28O3Peers: running to the opponent and B; departing them.

29O3B: going out of the pitch.

30O3Referee: Prii...what is going on here?

31O3Opponent: Answering the referee; ask B...!

32O3Referee: you know; B is deaf, you don't have to do that, help him. Everyday the teachers tell us to help hem.

33O3Opponent: but B started to push me...!

34O3OB: sitting down and looking at the sky.

35O3Referee: Prii...play, play, ... time is running.

36O3Peers: very sad but continue to play, they lost one team mate.

37O3Referee: Prii... time out!

38O3B: following his opponent; shaking the hands.

39O3Peers: running to the class.

B was marking his opponent during football play in line 21, then the opponent shout to B in order to move away from him, instead of moving away, B was touching and pushing his opponent (line 22 and 23). The opponent returned the push to B and he did the same and started to fight (line 24, 25 and 26). Then peers saw them fighting and decided to support them by departing their attachment on that situation and referee continued to talk with the opponent on how to treat B (line 28, 30, 31 and 32).

B usually plays with other peers, but in doing so he played and interrupt others by fighting or withdraw from the game when others are playing. For example, when B was playing with his peers he was pushing in line 23 and 25, fighting with his opponent as in line 27, then withdrawing from the game after the group helped them from fighting (line 29, 34 and 36). After all these the time was over and went back to their respective classes.

#### **4.5 Initiatives and turn-taking**

It has been observed during the study that interaction was initiated by both learners who were hard of hearing with their hearing peers. During the interaction turn-taking has also been noticed when learners interact.

In observation two which concerns M, a learner who is hard of hearing, initiated the conversation when carrying the ball to the play ground (netball pitch). They were waiting for M to bring the ball so that they could start to play netball.

1O2M: carrying the ball.

2O2Peers: standing at the playing ground, waiting for M.

3O2M: walking very slowly towards the pitch.

4O2Peers: Hurry up M; the time is going, we have minutes now to play!!!! Ah..ah..aaa...

5O2M: already at the playing ground, quietly.

6O2Peers: Put it down..., look at her..., no..no..no..stop!!!!

7O2M: facing them, throwing the ball on the netball pitch.

8O2Referee: Priiiiiiiiiiii---position yourself please.....!!!!

9O2M: standing, looking every angle without a word.

10O2Peers: arranging themselves

11O2Referee: Priiiii.....!!! What are you doing M??

12O2M: moving to the center position.

13O2Peer: moving quickly from the center to other position.

14O2Referee: Priiiii.....!!!! Holding the ball, throwing it up.

15O2M: jumping, holding the ball.

16O2Peers: looking at M, ready to punch or receive the ball.

17O2M: running, holding the ball to the goal area.

18O2Referee: Prii.....!!! mistake!! Foul!!!

19O2M: shooting.....!!!!

20O2Peers: standing.....!!!! Looking at M???

21O2Referee: Priiiii... stop .. stop..

22O2M: taking the ball, holding it.

23O2Referee: out! Out! I said out!!!, taking the ball from M.

24O2Peers: confronting M, talking with angry faces. ....you see we lost the game because of you!. If you don't know how to play its better to be out and observe from others first. ....look now, so bad...!!, I don't like the way she is doing things, ....exactly like pre-school child. She has to out and play with toys.

25O2M: standing on the playing ground.

26O2Referee: Priiii.... Ok, lets finish this, she doesn't want to go out.

27O2Peers: passing the ball to M!!!, we have lost the point now!! Look! Look! Look!

28O2M: Frustrated! Doesn't know what to do.

M initiated the communication with peers in line 2, 4, 6 and 7. Peers responded positively to her eventhough she was late and the minutes were gone in line 11 and 13. The means of communication in this observation were verbal from the peers in line 4, 6, 11, 18, 21, 23, 24 and 26, but all of these M was communicating through gestures in line 1, 3, 7, 12, 15, 17, 19, and 25 eye contact, as in line 9.

M initiated the communication through gestures and eye contact with her peers. The peers reaction showed a positive response towards's the game and M's ways of interacting, except on line 24 it was like accuse and despise her playing skills and demonstration on the specific

game. Afterwards, M observed to be so frustrated after understanding her wrong point, that all most, all of her playing group accused her by losing point.

#### **4.6 Teachers role in encouraging interaction and participation**

The teachers encouraged interaction between the learners in many ways. They were always well prepared the learner to observe the culture of exchange greetings with others before the lessons started everyday as in the interview there is a period which called 'Jambo Time' where-by is the obligatory for all learners to attend and say 'Jambo' to every one in the class, the teacher acting as a role model before the learners and singing the National Anthem. This period is very important for socialization and development on inner feelings towards others (it is like a game in other side). For example on the interview with SnT(a & b):

*“During the morning time on daily routine at school; they started with 'Jambo Time'. ...this is under teachers supervision, whom they can translate to them where their needs of doing so with the sign language or with high pitch sounds. They did through their teachers, who had that knowledge of hearing impairment, instead of staying at home, where there wasn't that knowledge”.*

In addition teachers introduced the ideas to the learners about the discipline to the others and respects for each other on the teacher's absence, and how to instruct with others during variuos lessons and different activities.

In example from the observation number one concerning B, a referee approached B after showing the behaviour of fighting with others during playing, and told him that they were going to report to the teachers, due to that he will be purnished. Then he decided to withdraw from the game in order to avoid purnishment from the teachers and on other side was the safety to the group.

2201B: fighting with peers.

2301Peers: taking him out, ..pushing him, go back to the class.

2401Referee: Prii- stop B, you will be purnished by the teachers. We are going to report your behaviour.

2501B: withdrawing from the game.

2601Peers: its better....!!!!.

## 4.7 Challenges encountered during interaction

Learners who are hard of hearing were faced with challenges when interacting with hearing peers, such as being despised (the hearing peers spoke embarrassed words concerning the hard of hearing as shown on the observation data below) without the knowledge of hard of hearing learners and this happened during playing when the peers observed their misbehaviour. When this happened they spoke with the low voice so that the hard of hearing will never understand what was spoken at the moment, but really they were despised them and brought the frustration to the learners as being isolated to the group, example observation number one (line 23 and 41), then observation number two (line 4, 6, 24, 28 and 34); observation number three (line 31 and 53).

23O1Peers: taking him out, ..pushing him, go back to the class.

41O1Peers: too much noise! Looking frustrated, throwing their hands up, pointing their fingers towards Z.

4O2Peers: Hurry up M; the time is going, we have minutes now to play!!!! Ah..ah..aaa...

6O2Peers: Put it down..., look at her., no..no..no..stop!!!!

24O2Peers: confronting M, talking with angry faces. ....you see we lost the game because of you!. If you don't know how to play its better to be out and observe from others first. ....look now, so bad...!!, I don't like the way she is doing things, ....exactly like pre-school child. She has to out and play with toys.

28O2M: Frustrated! Doesn't know what to do.

34O2Peers: shouting! Shouting!!!...huyoo..huyooo..uuuuu.

The communication is another challenge, especially when there were some instructions from the referee who was among of hearing peers, they usually using verbal communication and rarely non-verbal such as pointing, eye contact, gestures, mutual understanding from each other. This led to difficulties for the hard of hearing learner to follow the provided instructions as when to start or to stop a play, example observation number one (line 1, 2, 3, 4 and 5); then on observation number two (line 8, 11, 18, 21, 23 and on observation number three in line 22 and 23. The remained things for hard of hearing when playing was to defend by themselves through shouting, frustrated and withdrawing from the game, and this sometimes breakdown the interaction or can enhance it as on observation number one (line 24, 25, 42, 48 and 53), as shows below:

1O1Referee: Prii..... come on arrange yourself, pointing to the line infront of him.

2O1M: sitting out of line holding a plastic toy.

301Referee: If you are out of line, you are not our member.

401M: still rolling the toy on her hands.

501Referee: can you hear me?!!!!

802Referee: Priiiiiiiiiiii---position yourself please.....!!!!

1102Referee: Priiiii.....!!! What are you doing M??

1802Referee: Pii.....!!! mistake!! Foul!!!

2102Referee: Priiiii... stop .. stop..

2302Referee: out! Out! I said out!!!, taking the ball from M.

2203Opponent: shouting to B; you move; move away from me; don't touch me!!!

2303B: touching him, pushing the opponent.

2401Referee: Pii- stop B, you will be punished.

2501B: withdrawing from the game.

4201Z: running away from them.

4801Mo: screaming; running to the other side.

5301B: fighting; grabbing all the toys; ....throwing them to M & Z.

Although the researcher observed that the learners were leading themselves, controlling each others behaviour, giving instructions to the peers without the teacher's guide on the playing grounds, the leaners had mutual ways of reflecting to the teachers rules and they were really trying their best in interacting and assisting learners who are hard of hearing by reminded them on how to behave; for example on observation number one in line 24, the level of their playing as the example on observation number two in line 24. Some of the learners didn't pay attention when playing and follow the instruction too, mainly because some of their hearing peers were not aware of their needs and thus unable to help them efficiently during the physical activities when the interaction process took place as shown on the observation number three (line 48, 50, 52, 54, 56 and 62); as shows below:

4803Mo: look some where else, not attentive.

5003Mo: peer touching Mo.

5203Mo: preparing to run; looking others.

5403Mo: suprising;...like what is going on here?

5603Mo: looking the opponent; showing the empty hands...

6203Mo: throwing the hands up; pointing to the referee like complaining.

Also they had the challenges on the insufficient facilities and instruments for the various games, which led them to wait for one ball or one instruments for a long time, fighting for it, at the end brought a lot of injuries within a big group; as in the interview with SnTa:

*“They usually fall down when playing and got injuries sometimes severe or only bruises. ....also lack of enough equipment and facilities for sports and games (they use the same balls, and play in large group which needs a lot of balls and not a single ball.*

*..... when talking about ball games such as soccer, volleyball and handball, the blind and hard of hearing learners can use the ring bell (balls which they have bells) also, but at the moment they don't have the balls. The blind can follow the sound of the bell where by the hard of hearing can see and follow the sound to where the ball is directed to”.*

Also the interview data revealed that there was:

*“lack of the equipment and facilities such as pitches, for the special learners in this school. The school doesn't have playing areas, only the few areas around the classes and at the pavements. So the learners used to play on the open areas which they could see was ok for them. ... look you can see by yourself! (SnTb & H)”.*

Then, some more information from the teacher and the learners were as follows below:

*“The lack of experts include physical education teachers and instructors for the learners during playing sessions; also the people who suppose to teach physical education for learners with disabilities; e.g Deaf and hard of hearing learners (H); and also he claimed that ‘No priorities on the hard of hearing learners when comes to sports and games. I think this group supposed to be known as other groups but it is differerent from others”.*

Through the interview with SnTb, she explained the ways on which the hard of hearing learners lack the opportunity of interaction with hearing peers as follows:

*“... oh! Yes, there is Unions (Organisations) for Mental retarded; this is under the big umbrella of disabled organisations. It shows that the hard of hearing learners they*

*don't have this programme..... Yes, there is bias, if I can compare with hearing peers”.*

#### **4.8 Summary**

The data presented and analyzed in this chapter indicates that learners who are hard of hearing in regular school can interact with their peers in different situations. However, in some situations, it was difficult for them to clearly understand what was said or to get the message across to others, especially in communication ( i.e. level of sound). The findings also shows that some of the learners who are hard of hearing participated very well, on an equal basis as their hearing peers in physical education despite the communication difficulties.

On the initiation of the interaction during physical education lessons, it was depending much on the learner who possessed the instrument for playing, the instruction from the referee and the support from the peers. Although in the interview it showed that the hard of hearing were the one who initiate interaction because are the once who possessed most of the playing instruments. During observation it showed that most of the time the hearing peers initiated the interaction by being the referee or speak on the hard of hearing actions, but hard of hearing learners did it also when playing in a best way could control the group too.

## **5 CHAPTER FIVE: DISCUSSION, RECOMMENDATION AND CONCLUSION**

### **5.1 Introduction**

In this chapter the findings of the study are discussed which explained the ways of hard of hearing learners interacting with their hearing peers during physical education. The discussion is focusing on both observation and interview data and the applications of the ideas from Zone of Proximal Development and Disontegenesis theories of interaction by Vygotsky. The discussion is consisting of the general concept on the application of the two theories of interaction; followed by Interaction between learners who are hard of hearing and hearing peers, Participation of learners who are hard of hearing, Peer support, Initiatives and turn-taking, Teacher's role in encouraging interaction and participation, and Challenges encountered during interaction; recommendations and conclusion are made which provide some possible implications for further research studies.

### **5.2 The application of Zone of Proximal Development during interaction in this study**

In the inclusive education, the teachers and other peers use their systematic and logical reasoning to help the learners with hearing impaired and learners with or without other disabilities and the learners themselves to organize spontaneous activities during lessons through concepts development, and drills in order to apply certain skills. A hard of hearing learner can benefit a lot through interaction on this sense. If there is no any collaboration and coordination of these people who are working together it will be so hard to interact with others or to influence other learners during physical education.

Teachers or physical educators who can put forward the right skill to be executed during playing, help the learner to discover the precisely used of the skill and new conceptions or thoughts, hence supporting the hard of hearing's learning and support. When the learners play and involve into various physical activities, usually collaborate with others who have more experience on the certain game or have less experience on that game.

Due to this situation the learners depend on each others skill and the knowledge of the game when interacting during the physical education lessons.

### **5.3 The application of theory of Disontegenesis in this study**

During playing, learners can implement known ideas, but the unknown ideas could remain as how they are in their heads and playing environment too, and this led to both fascinating and mysterious on their skill development. For example in physical education there is the failure on implementing new skill to the certain kind of a game when they used to play on the sports grounds or during competitions because of many unmentioned reasons. Learners used to be helpless in implementing these new ideas and skills, and also don't have enough assistance and support which lead to failure of performing the activity.

However learners are by no means helpless in organizing interaction. On their very first school-day, learners are already active and full of initiatives in applying already mastered preschool forms of interaction: playing, manipulating things, communicating and others. If the learners are not specially taught new forms of learning skills on the specific game, they will maintain habitual of pre-school forms of interaction as the way they were playing with toys, when other learners stared for them and wondering. Obviously this happened according to their age and grade they used to study, showed low level or failure of demonstrating the playing skills, also the selections of the games to play, equipments to used and so forth. Moreover, the form of interaction affects its content.

During playing and communicating, learner construct different meaning while working on the same task. For this reason, adult like teachers and those who lead learners have to be alert and sensitive to a learner's intuitive choice of the form of interaction. Playing is directed at the process itself, so that the final result is usually disregarded or devaluated.

### **5.4 Interaction between learners who are hard of hearing and hearing peers**

Interaction is the mutual understanding and attention between two or more people. Interaction is characterized by individuals providing and sharing ideas, co-operating with one another, challenging each other's conclusions, and reasoning in order to promote higher quality decisions.

In this study the learners were observed while they were interacting during the physical education lessons when playing various games according to their preferences. In the field of

play (i.e. play ground)learners were interacting using verbal and non-verbal communication (mostly non-verbal like gestures and various actions).

A case in this point is observation one of an interaction in which **M** was observed as she interacted with her peers who are hearing learners. In this observation **M** hold the ball and throw it by herself at the pitch position at the centre without saying anything. But the referee saw it and understood that this was the time to start the game. Also she went to the position without being permitted or being given by the team organizer, and that position was not her position, but one of the peer decided to change the position and leave **M** on that position.

Then the referee blow the whistle means attention and went to **M** and told her the procedure and asked her that, that is not good in games, and also is not right for you. She explained more about it to her that, this is not your position, but next time you have to come early so that I will put you on the position you like, **M** was watching the referee direct to her eyes as if she understood each and everything which was spoken.

When the referee was talking with **M** everybody in the playing ground was quiet and aware of the mistake. But the aim of the referee was not to take her out of the game, she was intended to correct her and others could learn it from her that everybody has to be early on the playing ground, maintain the rules and procedures of the game and respect each other during playing.

During playing all learners who are hard of hearing observed in the study could express themselves through verbal and non-verbal communication. Particularly speech-reading enabled them to understand what their hearing peers communicated to them such as on observation one line 21. During playing, the hearing peers spoke loudly and used non-verbal communication such as gestures (like selection of players, calling using their waving hands and fingers, making eye contact to communicate on the passing and receiving the ball and the like); all these facilitated their active participation while interacting.

According to the observations, the learners who are hard of hearing play a big role in initiating interaction with their hearing peers and they also make good contributions during the interaction as on the above situation concerning about **M**, eventhough it shows that they have to struggle a lot in order to be in their respective groups during playing, example on observation two when peers confronted **M**, (24O2Peers: confronting M, talking with angry faces. ....you see we lost

the game because of you!. If you don't know how to play its better to be out and observe from others first. ....look now, so bad....!!, I don't like the way she is doing things, ....exactly like pre-school child. She has to out and play with toys).

The results which were identified from interview data show that learners who are hard of hearing and their peers interact both through the use of verbal and non-verbal communication. The communication between them was dominated by the use of gestures, speech-reading, eye contact which supported by verbal communication. One example is the Interview with **SnT(a&b)** under their explanation as shown below:

*“they pray and start to eat by welcome others, when each other observed who is eating in a bad manner like rough eating, quickly or eat fast, then they correct him or her” .*

The learners who are hard of hearing depends more on speech-reading, gestures, and watching the speaker's face to get information than on their residual hearing. This finding is in agreement with Vernon and Andrews (1990) who suggested that the hard of hearing individual must look at the speaker's face and mouth movement during conversation.

The learners who are hard of hearing and their hearing peers interacted during the physical education lessons within various activities, in playing groups, pair works and individual activities. They were sharing information and challenging each other. They engaged in conversation during group activities. The learners shared mutual understanding towards one another. The findings on interview **SnTb** which explained about the hard of hearing learners interacting with their hearing peers as:

*“They are interacting everywhere with each other. They used to play the games which themselves understood from each other according to their situation”.*

The learners who are hard of hearing expressed themselves through verbal and non-verbal communication, and in particular speech-reading enabled them to follow and understand what their hearing peers and teachers communicated to them. During their playing sessions, the hearing peers talked loudly and used non-verbal communication, such as gestures (for example pointing with fingers, smiling, nodding and making eye contact), which facilitate their active participation while competing for the particular game. Example on interview with **SnTb** argued that:

*“When you stay with disabled learner you are become disabled without your own knowledge. So they used to play with them by using the same language which could be expressed with themselves because most of the learners here they don't have knowledge about sign language, but themselves they used to understand each other when they play various games or doing other physical activities. Also they have their signs which they are using daily during playing time or when they interact (mixing) during the playing, they can do without any problem. Other signs are common; e.g come, throw, e.t.c. The problem comes to the Deafblind learner interact with hard of hearing. They used to touch each other, and show the balls, especially their balls have bells to produce sound when playing.”*

However, when communicating with the hard of hearing one did not necessarily need to talk loudly if there is possibility of having eye contact with the learner, but a degree of understanding was needed; he or she needed to speak in a clear and simple voice and pronouncing words slowly. Skjørten (2001) pointed out that some steps involved in communication are established during the process of interaction which include being attentive, looking or listening, being motivated and able to interpret the perceived information as well as being motivated to respond. She explained that communication means the exchange of interests, feelings, thought, opinions or information by sets of codes formed as signals or symbols which all partners can understand and handle. Therefore, in communication, each partner is expected to be alert to the needs of the other to ensure that the message is conveyed effectively and understood correctly.

#### **5.4.1 Participation of learners who are hard of hearing**

Participation is the act of sharing and taking an active role in activities of a group and class. The result from this study prove that learners who are hard of hearing engaged and participate in physical activities such as sports or games, jambo time, fetching water, cleaning the school environmet; also when they meet together at the domitory, eating time and recess or break time. Example on the Interview with SnTa. The hard of hearing learners demonstrated their ability to work co-operatively and share the responsibilities with their hearing peers.

Other learners were very active but leading part in a role-play activities as individuals, because they had their aggressive and individualistic behaviour where in playing group the

learners observed them and corrected that behaviour as on observation three, particularly on discussion between the referee and B's opponent when they were playing football as:

3003Referee: Prii...what is going on here?

3103Opponent: Answering the referee; ask B...!

3203Referee: you know; B is deaf, you don't have to do that, help him. Everyday the teachers tell us to help him...

Also the results from the interview data explain a lot on how the hard of hearing learners applied their skills and creativity on physical activities by applied some role-play activities as instructed by teachers under the various situations, as explained by SnT(a &b) that:

*During the morning time on daily routine at school; they started with 'Jambo Time'. ..... They used to sit around the big table,..mmm.. the aim of doing that is to learn them table manner and being socialized....., they pray and start to eat by welcome others, when each other observed who is eating in a bad manner like rough eating, quickly or eat fast, then they correct him or her, .... the one in washing turn could wash and dry them, the same as cleaning the table, sweeping the floor and mopping .... then they left the school to change and wash their clothes and do other normal extra-curricular activities.*

Organizing group activities with all learners both hearing and hard of hearing set around one table, eating together was a successful way of enhancing interaction. Group work enhanced opportunity for those who are hard of hearing to participate as they were given roles to accomplish (example during the Jambo time). Also they had ample chances of benefiting from group work and pair work, which showed that their level of interaction in an inclusive class was increased, their self-esteem enhanced, and they gain confidence by being involved. For example from observation one to observation three as has been analysed on chapter four, the participation of the learners is the act of sharing and taking an active role in activities of a group. In this study learners who are hard of hearing engaged and participated in physical education (activities) such as playing together various games, reporting or giving feedback to the teachers or nurses on what happened during and after playing, sharing ideas in pairs or individually, as explained in the interview with the HLs (the hearing peers) which they argued that:

*'If any accident occur, we look after him or her, and take the pupil to the class-teacher.....those with disabilities, they can fall and being hurt, so we help to take care*

*of them, carrying them up when they fall; and reporting them to the school dispensary... ’.*

#### **5.4.2 Peer Support**

The study reveals that peers supported each other during their physical activities. According to Interview with **HLa & HLb** they said that they used to help the hard of hearing learners out of danger.

*“Because we are helping the hard of hearing learners and blind learners and others with disabilities in our school. Those with disabilities, they can fall and being hurt, so we help to take care of them, carrying them up when they fall; and reporting them to the school dispensary if any injuries happened”.*

One of the hearing peer, supported Mo by touching him on the shoulder and showed him by pointing his finger, that the opponent has gone. Then **Mo** started to run after his opponent as shown on observation number three as shows below:

49O3Referee: Prie... start!

50O3Mo: peer touching Mo.

51O3Peer: pointing to the opponent who is running.

52O3Mo: preparing to run; looking others.

This clearly corresponds to the study conducted by Gearheart and Weishahn (1976), which maintained that an obvious advantage of educating children with hearing impairment in regular classrooms that children get exposed to different individuals, not for the purpose of feeling sorry for another individual but to gain respect for and appreciate the differences in each other.

In this study , the learners who are hard of hearing demonstrated leadership qualities by leading the hearing peers in physical activities, especially on the playing ground. According to observation number two, M was carried the ball to the pitch where other learners were waiting for her (she put the ball down at the playing ground then and took her interested position for playing when others were just attentive and observing her, at last the referee started the game, as shows below:

1O2M: carrying the ball.

2O2Peers: standing at the playing ground, waiting for M.

6O2Peers: Put it down..., look at her., no..no..no..stop!!!!

7O2M: facing them, throwing the ball on the netball pitch.

8O2Referee: Priiiiiiiiiiii----position yourself please.....!!!!

This encouraged and motivated interaction between the learners who are hard of hearing learners to be viewed equals and showed that, they possess the same ability as the hearing peers. According to Muvirimi (2002), when different groups of people are not put together, understanding and acceptance of their differences and a change of their attitudes towards one another can hardly be attained.

Inclusion of learners who are hard of hearing in regular schools helped them to realise their self-esteem to the extent of attaining leadership roles in classroom activities without feeling inferior to others. The factors that seem to have influenced good relationships are; opportunities to interact and peer support with both hearing peers and hard of hearing. According to Musselman, Mootilal & MacKay (1996) the teacher's role was very crucial. The teachers encouraged interaction and opportunities to engage with peers in classrooms and extracurricular activities.

Peer support involves learners helping one another in various and different areas. It was during their physical education that learners who are hard of hearing and hearing peers support one another, which can reflect on raising and influence their potentials.

In observations, peers were helping **M** and **Z** against **B**. When they were playing with toys, afraid, fighting and one of the hard of hearing learner's dominated the game in that group, then one of the hearing learner volunteered to join the group and help the others by removing the toys and try to reduce their fear on toys. This have been done by helping them to go against the **B** who at the beginning was frightened others. During interaction the learners can join into small groups too in order to compete with others. This happened as how the hearing learner help the hard of hearing to be away of fear and being happy with toys and finally joined the game as others did.

Also in their daily activities, their teachers instructed the learners during the Jambo Time on and other daily routines on how to take care of others. Greetings, obedience, shaking hands by

saying hello or congratulation after completing their playing sessions, holding one another, hugging, singing together, and helping one another in various activities. In this time they usually sing the National Anthem (Mungu Ibariki Afrika...which means God Bless Africa....) which most of the hard of hearing sing it quickly as the hearing peers. But for the once who failed to do so they have their own arrangement of these for them to sing together, where by they stood in pairs in such a way that each one of hearing peer has to stand adjacent to each other face the leader who was in front of each line controlling the singing. The failure of the singing it will be the duty of the pair to help him or her later (i.e. to guide him or her on how to sing and the next meeting they have to sing correctly).

The theory Zone of Proximal Development can support the situation of interaction and also can play a very big role on this process where by each learner has his or her potential of doing something at a certain level but with the guidance or helping from the more knowledgeable learner or adult (teachers) can raise his or her potential to the higher level of understanding.

Also the theory of Disontogenesis can be considered here on the way these learners interact. If the teachers looked at their hard of hearing problem as the element of not singing well as hearing peers, the hard of hearing learners couldn't handle it. So, despite of their hearing impairment as their primary disability, the teachers tried to reduce the secondary disability for the hard of hearing learners by introducing the strategies of themselves to interact with hearing peers in various activities such as peers support, work in pairs and by encouraging them to learn from each other.

During playing on observation three, **M** got stucked but other team mate who were both hard of hearing and hearing peers shout and laugh at him on (50O3Mo: peer touching Mo... 51O3Peer: pointing to the opponent who is running, 52O3Mo: preparing to run; looking others, 53O3Peers: laughing at Mo, 54O3Mo: suprising;...like what is going on here?, 55O3Referee: go...go...its too late, you can't catch him!!!, 56O3Mo: looking the opponent; showing the empty hands...).

According to the above observation, they showed the sign of helping/supporting him, because the referee used very low voice which couldn't be easy for him to hear, also he was not attentive too on the game. The situation alerted him to be attentive for the next time, because in sports the laugh to the failure is one of the motivation.

There is important for the learners who are hard of hearing to be involved as much as possible in various physical activities at school for the reason that they can realize their potential as

they share and work together with their hearing peers. Both learners who are hard of hearing and hearing learners can learn to assist and accept each other. This will help others to feel they are belong to the group and the like.

## 5.5 Initiatives and turn-taking

This study reveals that both hearing peers and hard of hearing learners initiated the interaction but not on equal basis. Observation findings show that most of the time the hearing peers were the once who kept on initiation, the hard of hearing learners have to struggle for it this happen most of the time from the people selected to control the game, most of them were hearing learners, example on (pg 56 & 57).

It has been observed during the study that interaction is initiated by both learners who are hard of hearing and their hearing peers in different ways and in different time. During the interaction turn-taking has also been noticed as learners interact. On page 53 when **Z** initiated the communication with both team members and the spectators when produced the peculiar sound during the game. The means of communication were mostly gesture in the way that the he used to smile and show his happiness face when the peers dropping their attention towards him. Another way of communication was eye contact as in (4203Z: timing; .....shouting..! very sharp and peculiar sound). They all demonstrated care about one another, belonging to the groups by co-operating, being accepted and supporting each other during playing through some of the learners have experiemced difficult to respond on time on a certain game.

The interview findings show that both learners do initiate the interaction in one way or another and it depends on who own the playing equipment; example on the interview with **SnTa** explained that:

.....oh oh ...“*Teachers, learners themselves in both groups but sometimes it depends on the group which had the playing equipment*”.

In some cases the hard of hearing initiate the conversation during playing in groups or when observing others when communicating by using eye contact and gesture with a play mate and immediately changed the position which the referee didn't agree with them on (203Peers: looking at M., 303Referee: putting the whistle on her mouth..., 403M: putting the ball down (at the center)... looking at the referee!! ...taking the ball again and going direct to the referee and giving her the ball., 503Referee: receiving the ball., 603M: going out of the field (playing ground),.

703Referee: looking at M., 803M: looking the referee., 903Referee: pointing to the position in the field without a word, and 1003Peers: looking at M and referee), her reactions shows that she had agreed with hearing learner who was her referee on the position at the playing ground ready to play. Afterwards, they looked at each other, smiled and continued to play. This shows that these learners they do cared about each other and worked together very well. The above findings are similar to the findings of Young and Kretschmer (1994), who conducted a study examining social interaction between children with hearing impairment and their hearing peers up on which they concluded that children with hearing impairment demonstrated success in maintaining social interaction.

The results also reveal that among the four participants, it was more difficult for **B** to initiate communication during their interaction. He had difficulties in understanding and following oral conversation and also he was inattentive. The findings from observation three (2103B: marking the opponent., 2203Opponent: shouting to B; you move.....; move away from me; don't touch me!!!., 2303B: touching him, pushing the opponent., 2403Opponent: pushing B., 2503B: returning the push.' 2603Opponent: fighting with B.), show as he remained as a problem person in the playing ground, reserved and looked so upset after missing the communication with his playing mate instead were fighting. He could respond when the referee faced him directly. According to Kapp (1996), a person who is hard of hearing often finds it difficult to understand other people because the sound images he/she perceives are unclear, distorted and sometimes not audible. Long, Stinson and Braeges (1991) observed that students who experience difficulties in communication in the classroom may choose not to interact and or participate in classroom activities, which may in turn affect their learning.

## **5.6 Teacher's role in encouraging interaction and participation.**

According to the information from the interview with teachers, the case of learners who are hard of hearing observed or are regarded by the teachers and other learners as slow in learning, rude, naughty, hyperactive, inattentive and with behavioural problems, when they did not actively interact or participate in the physical activities. This study exposed that learners who are hard of hearing often missed school and when they attended they were inattentive because it was difficult for them to follow but they hardly got support from their teachers. The main reason why the teachers didn't support them was that they were not aware of their disability. The hearing peers helped them as their culture of playing together dictated but the help was insufficient.

On the observations, especially during the physical education sessions, some of the learners demonstrated very well the good behaviours towards others, but some of them had highly aggressive and withdrawing from the games, the reason behind this is that they don't have an adult who can demonstrate to each individual learner on how to behave towards other when playing with others too.

### **5.7 Challenges encountered during interaction.**

Thomas (2000) argued that interaction between humans often takes place through a common medium of communication which is the process of transmitting information from sender to receiver as well as the sender having the ability to encode and the receiver to decode the information.

Most of the hard of hearing learners required high pitch sound, then during the observation three (48O3Mo: not attentive., 49O3Referee: Prii... start! 55O3Referee: go...go...its too late, you can't catch him!!!, 56O3Mo: looking the opponent; showing the empty hands...), when Mo couldn't hear when the instructions for the game to start was provided, the referee spoke by using a very low pitch sound (low voice) at the playing ground, beside it took him too long to take his turn because he delayed to run against his opponent and lost the game. They need to use eye contact and lip-reading which almost required attention everytime.

The results from the study showed that learners who are hard of hearing in regular school are faced with problems, such as became late to their class sessions, a lot of noise and shouting which interrupt their attention, missing some lectures, seems to be helpless (so the hearing peers used to help them most of the time), lack of playing equipment and facilities especially during the physical education lessons, time limit on physical education lesson, coordination during playing and mobility. In other situations the referees during playing their backs on them and this hampered their concentration, interaction and participation during the playing sessions.

When playing there was too much noise, that caused communication breakdown and possibly irritated learners who are hard of hearing, especially those using hearing aids, but others like observation in (31O2B: looking happy, ..with sharp voice and loud.. aaarrt..... eeeeeee...., pointing to the opposite goalie position., 32O2Opponent: looking confused, stopping, looking at B. ... ) when peers were tackling the ball, B was very happy to make a peculiar voice in order to win the game and this behaviour of noise

dominated the group a lot. It was difficult for learners who are hard of hearing to follow the instructions mainly because their teachers were not aware of their needs and could not help them efficiently.

The learners who are hard of hearing had trouble with specific aspects of interaction such as repairing communication breakdowns and initiating play behaviour, a finding that is similar to that of Caissie & Wilson, (1995); Young & Kretschmer (1994).

## **5.8 Recommendation and conclusion**

From the findings of this study some light has been shed on the existing gap through the study conducted on the interaction between hard of hearing and their hearing peers in physical education. This study highlights a lot of challenges in all forms of learning when the learners were playing together in their regular environment. On observation showed the participation of hard of hearing in the absence of their teachers (no specific teacher for physical education), and this is the interested subject eventhough it doesn't have evaluation as other subjects. But this is a powerful subject for interaction as a source of improving teaching and learning in the school and other benefits in the child's society and community. The teachers have to be trained for adaptive physical education so that they will help all learners with their varieties of needs, also on the empowerment of the teachers and kind of support services the regular teacher's training is getting has to recommend on physical education as the obligatory subject in teachers college. It is important to make recommendation about the programs which caters for hard of hearing and other learners with or without disabilities rather than leaving the learners making their own decisions by themselves and having mutual concepts without leading them. In line with this the following recommendations are made:

- The government of Tanzania should consider legalizing the draft policy on inclusive education. Through this policy, the teachers has to have obligatory subjects like Special Needs Education, and Physical Education as important as other subjects at school.
- Interaction is an important element between the two groups of learners, therefore the regular schools should be identified and recognized by all stakeholders. This will build respectful and caring relationships with all children while focusing on learning and achievement.

- The schools has to restructure the time table for physical education lessons and allocated at least reasonable experts for the physical education or trained teachers for adaptive physical education. This will help them to observe and keep on consideration of the learners sensitivity, creativity and respond appropriately to encourage and extend curiosity and learning.
- The regional officers, especially in the municipal level should conduct more training of regular school teachers to equip them with skills for the handling, guiding and counseling of learners who are hard of hearing and other learners with or without disabilities in order to observe, to listening and to discover what learners like to do, and when they feel confident, scared or frustrated.

Further studies should be done to investigate the impact of the policy on the situations of interaction of learners with and without disabilities during physical activities and other subjects in schools.

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## Appendix 1: Introduction letter for research purposes from University of Oslo



UNIVERSITY  
OF OSLO

Department of Special Needs Education

P.O.Box 1140, Blindern  
N-0318 Oslo  
NORWAY

Your ref:  
Our ref: 07/09 ST/db  
Contact person: Denese Brittain [d.a.brittain@isp.uio.no](mailto:d.a.brittain@isp.uio.no)

Visiting address:  
Helga Eng's Building  
3rd and 4th floor

Date: June 8. 2009

Telephone: + 47 22 85 80 59  
Telefax: + 47 22 85 80 21

FACULTY OF EDUCATION

### TO WHOM IT MAY CONCERN:

This is to certify that **MLAY, Janeth Danford**, date of birth 06.12.1975, is a full-time student pursuing a course of study at the Department of Special Needs Education at the University of Oslo, Norway, leading to the degree of Master of Philosophy in Special Needs Education (M. Phil. SNE).

This is a continuous two-year programme run on the "sandwich" principle, which involves periods of study and field work/research in both Norway and the home country. The student is currently in the second semester of the initial study period in Norway and will be working on the collection of data and the writing of a thesis during the autumn semester 2009. This involves a period of field work in Tanzania from 1 July to 31 December 2009. The student will then return to Norway for the final part of the degree. The period of study will be completed at the end of May 2010.

The main responsibility for supervising the research, developmental work and thesis remains with the Department of Special Needs Education, University of Oslo, Norway. However, we would kindly request that the relevant authorities give the student the access required to the schools and educational establishments necessary in order to undertake field work and research. We would also be most grateful for any assistance that is afforded to the student which enables her to carry out this work, particularly the use of facilities such as access to telephone, fax, e-mail, computer services and libraries at the various educational establishments.

Yours sincerely

A handwritten signature in cursive script, appearing to read 'Steinar Theie'.

Ass. Professor Steinar Theie  
Academic Head of International Master's Programme  
Department of Special Needs Education

INSTITUTT FOR SPESIALPEDAGOGIKK  
UNIVERSITETET I OSLO  
P.B. 1140 BLINDERN  
0318 Oslo

Institutt for spesialpedagogikk  
Det utdanningsvitenskapelige fakultet  
Universitetet i Oslo  
Norge

## Appendix 2: Request letter for doing research in Tanzania

Janeth Danford Mlay  
C/o Rehema D. Mlay  
P.O.Box 65474  
Muhimbili Orthopaedic  
Institute (MOI)  
Dar es Salaam  
Tanzania.

14<sup>th</sup> July 2009.

Ministry of Education and  
Vocational Training  
Department of policy and Planning  
P.O. Box 9121  
Dar es Salaam  
Tanzania.

Dear Sir/Madam,

**RE: REQUEST FOR PERMIT TO CONDUCT FIELD WORK (RESEARCH)**

Refer to the heading above.

I am a second year student from the University of Oslo, Norway pursuing Master of Philosophy in Special Needs Education.

In fulfillment of my degree, I am required to collect data in my home country to aid in the writing my thesis.

I am therefore writing to request for permission to conduct my fieldwork in one or two primary schools which are ~~in the area of Muhimbili~~ and ~~in the area of Muhimbili~~ School for ~~in the area of Muhimbili~~ Dar es Salaam.

My research title is: Interaction between hard of hearing learners with hearing learners in Physical Education lessons in Tanzania.

It's my hope that you will give my application every consideration.

Thank you in advance.

Sincerely



Janeth D. Mlay

Email: ladmlpk@yahoo.com

Mobile: 0755 384341

### Appendix 3: Permission from the Ministry of Education in Tanzania

**JAMHURI YA MUUNGANO WA TANZANIA  
WIZARA YA ELIMU NA MAFUNZO YA UFUNDI**

Simu: ELIMU  
DAR ES SALAAM.  
Telephone: 2122067  
Telex: 42741 Elimu Tz.  
Fax: 2122067.  
Email:



S.L.P 9121,  
**DAR ES SALAAM.**

Kumb.Na SPED/292/457/05/51

Date: 16.7.2009

**To whom it may concern,**

**RE: PERMISSION FOR MS JANETH D. MLAY TO CONDUCT  
RESEARCH IN YOUR INSTITUTION**

The above topic is related to two letters which are all related to the student who is bearing this letter of permission.

Janeth D. Mlay is a tutor at the Morogoro Teachers College. She is currently pursuing her Masters of Philosophy in Special Needs Education in Oslo, Norway.

With this letter, she is granted a permission to conduct research in two schools namely \_\_\_\_\_ and \_\_\_\_\_ Primary School for the \_\_\_\_\_ Dar es Salaam.

Kindly, assist her accordingly

  
I. Eliamringi  
**For Permanent Secretary**

## Appendix 4: Permission to do research at the schools from Ilala Municipal

### ILALA MUNICIPAL COUNCIL

ALL COMMUNICATIONS TO BE ADDRESSED TO THE MUNICIPAL DIRECTOR

BOX NO. 20950  
PHONE NO: 2128800  
2128805  
FAX NO. 2121486



MUNICIPAL DIRECTOR'S OFFICE  
ILALA

17 July, 2009

The head teacher,

Dar es salaam

**RE: PERMISSION TO CONDUCT FIELD RESEARCH ON INTERRACTION BETWEEN HARD OF HEARING OF LEARNERS WITH HEARING LEARNERS IN PHYSICAL EDUCATION LESSONS IN TANZANIA**

The heading above is concerned.

The office has received your letter dated 30 July, 2009 which was asking the permission to conduct field work in our Council.

Permission has been provided to conduct your field work at [redacted] and [redacted] schools on the mentioned title from July, 2009 to December, 2009

You are therefore required to give her the required assistance.

I wish you all the best.

  
B. Thomas  
For: Municipal Education Officer

## Appendix 5: Request letter to the Head of the school

Department of Special Needs Education

Faculty of Education, University of Oslo

Postboks 1140 Blindern

0317 Oslo, Norway.

Head of the teacher

-----Primary School

Date: -----.

Dear Sir/ Madam.

### **RE: PERMISSION TO CARRY OUT RESEARCH**

I am a student at the University of Oslo, taking a Masters of Philosophy Degree in Special Needs Education, and currently carrying out research in my own country.

During this research I intend to work with some teachers and some pupils of classes four to seven. The research aim is to promote inclusion through interaction between hard of hearing learners with hearing learners during Physical Education lessons. I have already received clearance to carry out research from the Ministry of Education and Vocational Training, Ilala Municipal, and have attached the letter of introduction from the University of Oslo.

I feel that this research will both be beneficial to the school as well as to the research, which I hope will contribute to the establishment of Inclusion in the school and the related institutions. All matters discussed or observed during the course of study, will be treated with confidentiality. On request the results of the research will be copied to you.

I do request that you fill out the informed consent Form (attached) and I hope for a favourable response from you.

Regards,

Janeth D. Mlay

**Appendix 6: Consent form to the Head of the school**

Attachment Consent Form for Teachers and Pupils to be allowed by the Headteacher to participate in research.

**CIRCLE THE NUMBER THAT CORRESPONDS TO THE STATEMENT THAT YOU AGREE:**

1. I allow teachers to participate in the research.
2. I don't allow teachers to participate in the research.
3. I recommend the pupils to participate in the research.
4. I don't recommend the pupils to participate in the research.

Researcher's Signature: -----

Date: -----

Headteacher's Signature:-----

Date:-----.

**Appendix 7: Consent form to the parents/guardians**

**PARENTS/ GUARDIAN CONSENT FORM FOR PARTICIPATION IN RESEARCH**

I give my consent for my child-----to participate in the research titled "Interaction between hard of hearing learners with hearing learners". A study which is being conducted with Ms. Janeth D. Mlay; from Department of Special Needs Education, University of Oslo. I understand that this participation is entirely voluntary, I or my child can withdraw consent at any time without penalty and have the results of the participation to the extent that it can be identified as my child's returned to me, have to be removed from the research records, or destroyed.

The reason of the research is to investigate how do the hard of hearing learners interact with their hearing peers during Physical education lessons in this school. The procedure are as follows; the researcher will be collecting data using a variety of instruments and techniques such as observation, Interview, audio tape recorder and memos.

I understand that my child will be given alternative, equivalent exercise if I or my child do not consent to participate. This choice will not affect the grade of my child.

The results of this participation will be confidential, and will not be released in any individual identifiable form. The interview will be taped (audio). Access to the tapes will be restricted to the researcher. The tapes will be stored in a secure area and the tapes will be destroyed immediately after transcribing my data. The tape will be transcribed and the words of my child may be quoted. If so s pseudonym will be used to ensure that my child can not be identified in any way.

Then the researcher will answer any question about the research, now or during the course of project, and can be reached by phone at +255755 384341.

Please sign a copies of this form . Keep one copy and return the other to the researcher.

-----

Researcher's Signature

Date: -----

-----

Parent's/ Guardian's Signature.

Date: -----

## **Appendix 8: Observation guide**

The main question:

**“How do the hard of hearing learners interact with hearing learners in Physical Education lessons?”**

Below are some questions that would support/guide to answer the research problem above:

- a) When do learners who are hard of hearing interact with their hearing peers?
- b) Who initiate the interaction?
- c) What kind of physical activities do learners who are hard of hearing engage in?
- d) What challenges are encountered by hard of hearing learners while interacting with hearing learners within PE lessons.
- e) What challenges are encountered by hearing peers while interacting with hard of hearing learners within PE lessons.
- f) What opportunities for interaction does regular school provide during PE lessons for both groups of the learners. Is there any bias?

## **Appendix 9: Interview guide**

### Interview Guide

- a) When do learners who are hard of hearing interact with their hearing peers?
- b) Who initiate the interaction?
- c) What kind of physical activities do learners who are hard of hearing engage in?
- d) What challenges are encountered by hard of hearing learners while interacting with hearing learners within PE lessons.
- e) What challenges are encountered by hearing peers while interacting with hard of hearing learners within PE lessons.
- f) What opportunities for interaction does regular school provide during PE lessons for both groups of the learners. Is there any bias?