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An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania

Ildephonce Mkama

A Thesis Submitted to the School of Education as a Fulfilment for the Award of Doctor of Philosophy in Deaf Education

The Centre for Deaf Studies

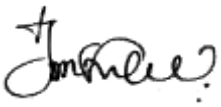
University of the Witwatersrand, Johannesburg

Supervisor: Professor Claudine Storbeck

June 2021

Declaration

I hereby declare that this thesis, submitted for Doctor of Philosophy (Deaf Education) degree at Wits School of Education, is my original work and that a whole or part of it has not been previously presented anywhere for the award of any academic qualification. I, therefore, cede copyright of the thesis in favour of the University of the Witwatersrand, Johannesburg.



Ildephonce Mkama *10th June 2021*

Dedication

This research is dedicated to my beloved parents, the late mama Rozalia Ibrahim Kasumbilo and my father Constantine Kazana, and to the Deaf Community in Tanzania.

Acknowledgment

Firstly, I thank God the Almighty for the gift of life, knowledge and strength. Secondly, I deeply thank my beloved parents for their love, care and upbringing. May God reward them abundantly. Thirdly, I thank my lovely wife, Magreth Kusipa, and my children for their love and moral support. They were always in contact with me regardless of being distanced from them for the entire period of my study. I solemnly acknowledge the invaluable contribution of my supervisor, Professor Claudine Storbeck, firstly for her readiness to supervise me and secondly, for her time, mentorship and guidance from the very first day of my academic journey. Her expansive expertise enriched me with potential knowledge in the field of Deaf education. I extend my sincere appreciation to my University College (AMUCTA) administration, Prof. Muzale, HRT, Prof. Bilame, O., Prof. Mlambiti, M., Dr. Ndasi, A., Dr. Sophia M., Dr. Tibategeza, E. R., Prof. Asantemungu, J., Dr. Mhina V. to mention but a few for granting me the academic leave and for their support in my academic journey. Similarly, I sincerely acknowledge the PSIPSE project coordinators, Sr. Grace M, Mr. Fred M, Mrs. Julia Van Grinsven and Dr. Maria Brons for their commitment to implement the PSIPSE project in which this Ph. D. is a part. Furthermore, I appreciate the entire working staff at the Wits Centre for Deaf Studies, Dr. Guy M, Dr. Moodley Sel., Dr. Lucas M., Ms. Elizabeth and everyone for their valuable support which was readily available whenever I needed it from them. Moreover, my heartfelt thanks to the government of the United Republic of Tanzania for permitting me to conduct this study in Tanzania. Lastly, I extend my gratitude to everyone who was part of the advancement of my career aspirations and the completion of this research: my colleagues at AMUCTA, family members, friends, the Deaf community and students.

May God bless you abundantly!

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List of Abbreviations

AMUCTA	Archbishop Mihayo University College of Tabora
EHDI	Early Hearing Detection and Intervention
ESR	Education for Self-Reliance
GDP	Gross Domestic Product
ICT	Information and Communication Technology
JMT	Jamhuri ya Muungano wa Tanzania
MDG	Millennium Development Goals
NBS	National Bureau of Statistics
NECTA	National Examinations Council of Tanzania
NSIE	National Strategy for Inclusive Education
Ph. D.	Doctor of Philosophy
POLG	President's Office – Local Government
PPP	Public-Private Partnerships
PSIPSE	Partnership to Strengthen Innovation and Practice for Secondary Education
SSA	Sub-Saharan Africa
TSL	Tanzanian Sign Language
UNCPD	United Nations Convention for Persons with Disabilities
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
URT	United Republic of Tanzania
USA	United States of America

Chapter One

General Introduction

1.1 Introduction

Educating Deaf[1] children has been a continuous global debate that is grounded on perspectives and beliefs among scholars and educational research. This debate motivated different researchers to explore how Deaf students learn (Adoyo, 2007; Armstrong, 2009; Marschark M., 2007; Mcilroy, 2018) and has consequently led to diverse approaches and understandings across cultures. In Tanzania, efforts to teach Deaf students have existed since 1963 when the first primary school for the Deaf was established in Tabora. According to unwritten history, the school was missioned to train speech to Deaf students hence, it was named Tabora Deaf-Mute Institute. The mission of the institute led to abandon the use of sign language instead, all students and teachers were supposed to speak. The approach of teaching Deaf students to speak was continuous even after the registration of the institute into a school for the Deaf. The establishment of Tabora Deaf-Mute institute and later a primary school for the Deaf was a remarkable initiative of educating Deaf children. This initiative later opened up more opportunities for education access to Deaf students, including the establishment of special units in mainstream regular and special primary schools to some parts of the country.

However, the situation in secondary education was different. At first, there were no formal mechanisms for the identification of Deaf students, and as a result, most of them attended regular secondary schools. Unmonitored placement of Deaf students in regular secondary schools had diverse effects on their follow-up and monitoring. This has resulted in the lack of significant information about Deaf education in Tanzania (Batamula, 2009, p. 2). However, following the globe's move towards an inclusive education agenda, such units and schools necessitated the transition and adoption of inclusive education. In this regard, thereafter, the government took necessary efforts through planning and implementing the inclusive education policy. It is worth noting that, the adoption of inclusive education in Tanzania since 2010 (URT, 2009) necessitated that all students, regardless of their gender, economic status,

[1] The uppercase ‘D’ is used throughout this document as a generic reference for deafhood. The researcher is aware of contrasting ideologies on the annotation of pathological versus sociological deafness. To avoid this debate, ‘Deaf’ is used throughout to mean ‘deaf, hard-of-hearing, hearing-impaired, Deaf, and DeaF people’.

ethnicity, disability and learning needs, study together in one school and share equally all the available resources.

The adoption of inclusive education in Tanzania since 2010 marked the first phase of education reform and transition in the country. This phase spanned for eight years – 2010 to 2017. It was this period when inclusive education was officially documented and strategized by the National Strategy on Inclusive Education, 2009 (URT, 2009). After the publication of 'National Strategy on Inclusive Education, 2009', Tanzania changed its education approach and adopted inclusive education right from 2010. It was from this time Deaf students started being formally recognised and placed in appropriate special and/or inclusive secondary schools.

Within an inclusive education agenda, students' variations and learning needs are placed together in the same classes. Given the diverse learning needs of students, the inclusion of such students raises a learning concern to educational activists and scholars on the extent to which inclusive schools can accommodate diverse cultures and learning needs in one class. In Tanzania, not only does inclusive education face diverse understanding which has led to a lack of uniformity in modalities of its implementation across schools but also it is constructed within multi-sociolinguistic perspectives which regard deafness as a misfortune. The prevalence of such notions among students and teachers makes inclusion even more frustrating. This situation, therefore, has resulted in negativity over the acceptance of Deaf students (Batamula, 2009; Migeha, 2014; Tungaraza, 2014). The Human Rights Watch has underlined the prevalent of such social rejections. It claims that "there is an ongoing segregation of persons with disabilities among communities in Tanzania" (Human Rights Watch, 2017, p. 13). The persistence of segregation emanates from the socio-cultural construction of an understanding over persons with disabilities, which has significant impacts on the formation of school culture in general (Meier, 2011, p. 806).

Contrary to the improvement of education for Deaf students, inclusive education in Tanzania has witnessed the mounting of dropout among Deaf students in secondary schools since its inception. For example, Human Rights Watch Report indicates that below 0.1% of Deaf students were reported to be in school while their dropout rate counts twice as much (Watch, 2017, p. 83). It is on this background this research sets to explore the extent to which

inclusive education has influenced the academic progress of Deaf students in secondary education within the first phase of its implementation.

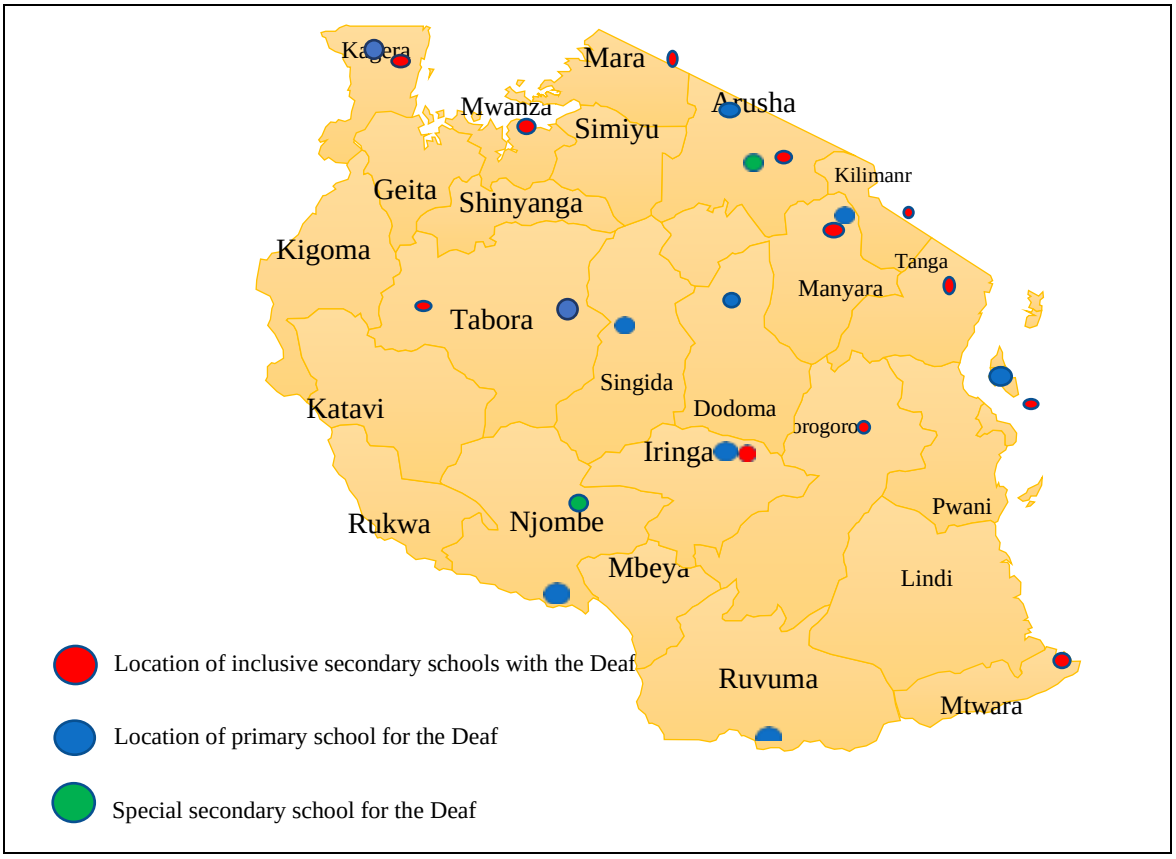
1.2 Development of Deaf Education in Tanzania

As is stated earlier, the history of Deaf education in Tanzania can be traced back to the 1960s when the first primary school for Deaf students was introduced by the Catholic Church in Tabora. It was the efforts of the Catholic missionaries from the Netherlands which influenced the establishment of the Tabora Deaf-Mute Institute in 1963 (Tungaraza, 2011, p. 5) with the aim of training speech to Deaf children. However, following the lack of specific schools for Deaf students, the institute was transformed into a primary school. Unwritten history reveals that the mission of the school was to train students to speak, and this had effects on the entire teaching process much that sign language was strictly prohibited.

According to the founder[2] of the school, the mission of the school was grounded on the medical approach of teaching the Deaf to create a pool for teachers who can assist Deaf children later. The medical approach takes deafness as a curable phenomenon hence discourages the use of sign language. In this school, teachers were only allowed to aura methods during all the times they met with students. This model was useful in training speech to students however, it influenced the entire approach of teaching Deaf students in the country. Following the scarcity of schools for Deaf children in the country, hence limited learning access to the Deaf, in 1974, Buguruni School for the Deaf was opened by the Tanzanian Society for the Deaf in collaboration with the Ministry of Education (Ministry of Education and Culture, 2005). Buguruni became the second school for the Deaf in the country. The third and fourth schools were started by the Lutheran Church when they built two special residential primary schools in 1981: Bukoba School for the Deaf - Mugeza and Mwanga School for the Deaf. These schools were built in Kagera and Kilimanjaro regions respectively to expand education facilities to Deaf children (Tungaraza, 2011, p. 5).

As years went on, the Tanzanian government, non-governmental organizations, and religious institutions (through Public-Private Partnerships: PPP) established schools for the Deaf and inclusive schools at primary and secondary levels (Tungaraza, 2014, p. 113).

[2] The zoom interview with Fr. Piet Bergmann – founder of the first school of the Deaf – was conducted on 13th May 2021.



Map 1: The location of inclusive and special schools for the Deaf in Tanzania

The map shows that there is growing dispersion of schools for Deaf students in the country. As one may learn, there are still some regions in the country that do not have any special or inclusive schools for Deaf students. For example, of 26 regions of Mainland Tanzania, 8 regions do not have schools for Deaf students. This proposes that Deaf students from such regions either attend regular schools in the neighbourhood or travel to nearby regions for education services. The map indicates that the western part of the country is the most affected;' region with the lack of special or inclusive schools for Deaf students despite being the place where education of the Deaf originated in the country. Notwithstanding the above situation, currently, Tanzania has 12 special primary schools for Deaf students (see Table 1) and two secondary schools for the Deaf as shown in Table 2.

S/N	School	Year of Establishment	Started by	Region
1.	Tabora Deaf-Mute primary School	1963	The Catholic Church	Tabora
2.	Buguruni Primary School	1974	Public-Private Partnership	Dar es Salaam
3.	Mugeza Primary School	1981	The Lutheran Church	Kagera
4.	Mwanga Deaf Primary School	1981	The Lutheran Church	Kilimanjaro
5.	St. Vincent Primary School	1984	The Catholic Church	Ruvuma
6.	Mtwivira Primary School	1993	The government of Tanzania	Iringa
7.	Njombe Viziwi Primary School	1994	The Lutheran Church	Njombe
8.	Tumaini Viziwi Primary School	2004	The government of Tanzania	Singida
9.	Dodoma Deaf Primary School	2004	EOTAS Foundation	Dodoma
10.	Dongobeshi Primary School	2007	The Lutheran Church	Manyara
11.	Njia Panda Primary School	2007	The government of Tanzania	Kilimanjaro
12.	Kaigara Primary School	2010	The government of Tanzania	Kagera

Table 1: Special Primary schools for Deaf students

It is worth noting that despite starting in 1963, Deaf education is still seen as a new field in Tanzania, hence it lacks adequate research (Batamula, 2009, p. 9; Rugambwa & Mathew, 2013). For this reason, due to the lack of published history, a significant amount of information available about Deaf education is derived purely anecdotally from Deaf adults and teachers of Deaf students. I will use the 'narratives' of various Deaf adults to frame a picture of Deaf education in Tanzania. Before the inception of inclusive education in 2010 in Tanzania, a few secondary schools had special units[3] to assist students with special needs. However, assistance that was accorded to the needy students was available during remedial sessions. Mr. Salum – one of the Deaf adults – narrated a touching tale of how he struggled to become a teacher:

> Despite the availability of special units, schools were both non-supportive in such that many Deaf students dropped out of school. In those units, all students with special needs – the blind, the Deaf, and cognitive-impaired – were put together. Teachers in the units did not use sign language, rather they were involved only in speaking. Generally, learning for us was not easy. That is why even today you cannot witness a Deaf role model in top government offices, among the university lecturers and even secondary

[3] After the inception of inclusive education in Tanzania, these units became non-existent. Schools that had units for students with special needs have been transformed into inclusive secondary schools.

> school teachers. The main reason is that we were segregated and hardly supported to learn. I was taking science, but I failed to continue with it because of a lack of relevant support. When I joined a teachers' college, I found that it was even worse there. I had to put in all my efforts to get the required grades. That is why I decided to be a teacher to assist Deaf students to accomplish their academic dreams (2018, Personal communication).

In Tanzania, there are 14 special schools for the Deaf (12 Primary schools and 2 Secondary schools) and 25 inclusive secondary schools with Deaf students (see Section 1.3). These numbers simply imply that only a limited number of Deaf students can be served by the two secondary schools while most of those who complete their primary education are enrolled in regular and/or inclusive secondary schools (see Table 2).

As it is indicated on Map 1 above, the spread of inclusive and special schools for Deaf students in the country has almost cut across the country. The spread is meant to provide learning spaces for Deaf students to comply with the global call for equalization of education accessible to all students. On the other hand, the expansion and spread of schools for Deaf students is an indication of the positive response to the Millennium Development Goals (MDG-4) and Sustainable Development Goals (SDG-4), 2030 for provision and equalization of education to all the groups of people. However, the extent to which such a spread aligns with the provision of accommodation facilities for Deaf students in respective schools remains an area of research.

1.3 Background of Inclusive Education in Tanzania

The quest to improve and equalize public education provision has been the priority of Tanzania since independence in 1961 (Dennis & Stahley, 2012, p. 48). Several legal and educational programmes for the enhancement of equal education provision have been established from time to time. For example, in 1977 Tanzania launched Universal Primary Education (UPE) to champion the cause for expanded educational opportunities for African children through eliminating the colonial three-tier education system that had established an education cluster for Africans, Asians, and Europeans under a 1:3:6 ratio respectively (Omari, Mbise, Mahenge, Malekela, & Besha, 1983, p. 30). UPE reformed the education approach of the country by making primary education compulsory for all citizens. The main objective of UPE was not only to reduce illiteracy among the citizens but also to achieve

education for all (Omari, Mbise, Mahenge, Malekela, & Besha, 1983; Mushi, 2009, p. 98). UPE went along with the expansion of secondary education and non-formal education opportunities (Mushi, 2009, p. 134)

To ensure a thorough implementation of UPE, in 1978, the government of Tanzania enacted the National Education Act which made a decree that "every citizen of the United Republic of Tanzania shall be entitled to receive such category, nature, and level of national education as his or her ability may permit" (URT, 1978, p. 27). However, until then, the clear information about the inclusion of Deaf students in the education system had no statistics. The pronouncement of the Education Act necessitated the Ministry of Education and Vocational Training to establish a Special Education Unit in 1989 – at the ministerial level – to advise the Ministry on the adoption of inclusive education and preparing for the adoption of the same (Rugambwa & Thomas, 2013, p. 117).

The Unit helped to prepare a pilot project 'Special Needs in the Classroom' which was conducted by the Ministry of Education in partnership with UNESCO in 1998 to identify possibilities for the implementation of inclusive education. The pilot project involved seven primary schools in Temeke Municipality in Dar es Salaam (Mayungu, 2015, p. 4). Among other activities, the pilot project conducted inclusive education seminars that were financed and administered by UNICEF. In those seminars, teachers and parents were trained separately for three weeks on inclusive education -meaning and practice - in several regions in the country (Tungaraza, 2011). These seminars acted as platforms for getting views about inclusive education practices. Of importance with the pilot project was to initiate a groundwork for the preparation of the National Strategy for Inclusive Education in Tanzania. In this regard, the development of the strategy was done in three phases (URT, 2009, p. 10), namely:

> The first phase included the orientation workshops and seminars that were organized to seek views on the strengths and weaknesses linked with special needs / inclusive education provision.
>
> The second phase was a Situation Analysis and Needs Assessment on Special Needs/ Inclusive Education in Tanzania which evaluated some current provisions for children with disabilities and inclusive education initiatives, as well as investigated different conceptual understandings regarding special needs education and inclusive education.

> The third phase provided critical comments and feedback on the first draft which were taken into consideration in the revision for the second draft.

In the same motive to equalize education opportunities for all children, the government of Tanzania introduced the Secondary Education Development Plan (SEDP), 2004- 2015 which aimed to increase the proportion of the youth who are enrolled in secondary education by 2015 (URT, 2010). This eventually led to an increase in both the enrolment of Deaf students and the expansion of inclusive schools. However, the expansion of the secondary education sector had no specific objectives and strategy regarding students with disabilities (Okkolina, Lehtomäkia, & Bhalalusesa, 2010, p. 64). So there was a great need to have policies and legal frameworks for the equalization of educational opportunities to all groups of students.

Thus, the introduction of inclusive education strategy in 2010 formed an agenda that obliged Deaf students, students with disabilities, and the regular students to learn together in a regular classroom, to be taught by one teacher, and to be assessed in the same examination despite that there were no specific guidelines for such inclusion. However, the inclusive education strategy did not establish a clear approach to inclusion. This resulted in a lack of uniformity in the implementation of the same, hence a difficult pathway for education intervention for Deaf students and other students with disabilities. As a result, research shows that less than 9% of students with disabilities in Tanzania have continued with their secondary education whilst more than 80% dropout and/or fail due to inappropriate school construction and infrastructures which cause a barrier to the learning and participation in secondary education (Okkolina, Lehtomäkia, & Bhalalusesa, 2010, p. 67).

The route to inclusive education provision in Tanzania took different channels and shapes. These include the enactment of legal frameworks for equalization of education, among others. For example, the Policy for Persons with Disabilities (2004) and the Disability Act (2010) were both enacted by the government of Tanzania to protect the rights of children with disabilities. With these documents, children with disabilities were given equal learning space with children without disabilities. For instance, the Disability Act stipulates, “children with disabilities shall be trained in an inclusive setting and shall be provided with equal education facilities” (URT, 2010, p. 24). It was from this decree that in 2010 all education provisions paid attention to the inclusion of persons with disabilities, and later the official adaption of inclusive education strategy (URT, 2010).

However, despite the intended national vision of inclusive education to equalize education provisions to all students regardless of their learning needs, the question regarding how Deaf students are enabled to learn remains an area for research in the country. This quest is strengthened by the fact that communication and language – which are key needs for Deaf learners (Marschark & Knoors, 2014) – are not clearly articulated in the Curriculum for Secondary Education (2005), National Strategy for Inclusive Education (2009), and the National Education and Training Policy (2014). These documents are guiding tools for education provision in the country.

The adoption of inclusive education in Tanzania has both strengths and challenges for students and teachers. With strengths, it has expanded education spaces for Deaf students from unknown to 27 secondary schools in which Deaf students can enrol (see Table 2). For example, it has been shown that in 2010, a total of 520 Deaf students enrolled in secondary education (Tungaraza, 2011, p. 6) and seven years later - in 2017 – their enrolment increased to 1,124 (URT, 2017). This means that, within seven years, the enrolment of Deaf students increased by 216%. As it is stated earlier, increasing enrolment of Deaf students in secondary education was a result of the increase in the number of schools that enrol such students and not modifications on the curriculum because Deaf students continued to study in a regular national curriculum for secondary education. Together with this rapid increase in enrolment, there is a deficit of actual statistics of Deaf students' enrolment in secondary education in the country in recent years. The increase in enrolment suggests a quest for research on the quality of inclusion and learning process of Deaf students, but on the other hand, how it impacted the implementation of inclusive education in secondary schools.

Index	Name	Type	Category	Region
1	Viziwi Njombe Secondary School	Inclusive	Deaf	Njombe
2	Moshi Technical School	Inclusive	Multiple	Kilimanjaro
3	Mtwara Technical School	Inclusive	Multiple	Mtwara
4	Musoma Technical School	Inclusive	Multiple	Mara
5	Tanga Technical School	Inclusive	Multiple	Tanga
6	Bwiru Boys' Technical School	Inclusive	Multiple	Mwanza
7	Benjamin Mkapa Secondary	Inclusive	Multiple	Dar es Salaam
8	Morogoro Secondary School	Inclusive	Multiple	Morogoro
9	Malangali Secondary School	Inclusive	Multiple	Iringa

10	Kazima Secondary School	Inclusive	Multiple	Tabora
11	Mlingano Secondary School	Inclusive	Multiple	Tanga
12	Rugambwa Secondary School	Inclusive	Multiple	Kagera
13	Ndwika Girls' Secondary School	Inclusive	Multiple	Mtwara
14	Balagdalalu Secondary School	Inclusive	Multiple	Manyara
15	Mkolani Secondary School	Inclusive	Multiple	Mwanza
16	Sabodo Secondary School	Inclusive	Multiple	Mtwara
17	Buhongwa Secondary School	Inclusive	Multiple	Mwanza
18	Iringa Girls' Secondary School	Inclusive	Multiple	Iringa
19	Mtwara Technical School	Inclusive	Multiple	Mtwara
20	Holy Ghost Secondary School	Special	Deaf	Arusha
21	Ruhinda Secondary School	Inclusive	Multiple	Kagera
22	Themi Secondary School	Inclusive	Multiple	Arusha
23	Mabira Secondary School	Inclusive	Multiple	Kagera
24	Thomas Michael Labrecque Girls' Secondary School	Inclusive	Multiple	Kagera
25	Lowassa Secondary School	Inclusive	Multiple	Arusha
26	Mwanakwelekwe 'A' Secondary School	Inclusive	Multiple	Zanzibar
27	Nyankumbu Girls' Secondary School	Inclusive	Multiple	Geita

Table 2: Inclusive Secondary Schools with Deaf students: modified from MoEST (2019)

The annual increase of Deaf students' enrolment in secondary education is only 0.05% of all students in secondary education (URT, 2018). However, despite the small number of enrolments, those who drop out from secondary education have been persistently increasing resulting in 0.01% of Deaf learners in Form Five and Form Six. Table 2 indicates that despite having inclusive schools that enrol deaf students, two schools are only for the Deaf. This model may be favourable to some Deaf students who are selected to special schools which constitute entirely of students with related cultures more especially when such schools have established responsive learning environments for their learners. On the other hand, inclusive schools may be beneficial to both hearing and Deaf students following the fact that such schools enable learners to interact with each other regardless of their disabilities and differences. Thus, inclusive schools are a rich environment for cultural transfer and the development of interactional tendencies. In this regard, special schools are likely to orient their learners to a more exclusive society, unlike inclusive schools.

Class	Year	Girls	Boys	Total	All students	% of Girls	% of Boys	% of the Deaf in grade
Form One	2013	170	181	351	565,695	0.03	0.03	0.06
Form Two	2014	163	174	337	523,162	0.03	0.06	0.06
Form Three	2015	118	99	217	373,202	0.03	0.03	0.05
Form Four	2016	84	108	192	308,831	0.02	0.03	0.06
Form Five	2017	9	8	17	77,895	0.01	0.01	0.02
Form Six	2018	6	4	10	63,072	0.01	0.01	0.01

Table 3: Enrolment of Deaf students in Tanzania secondary schools: modified from (URT, 2018)

Table 3 above indicates that Deaf students have been decreasing gradually with an increase in education level between 2013 and 2018. The table proposes that there is a rapid decline in the number of Deaf students as one advance to the upper class. For example, of 351 Deaf students who were enrolled in secondary education in 2014, only 192 (54.7%) completed their ordinary level secondary education in 2016 while only 10 (2.8%) finished their advanced level secondary education. These statistics propose a need for research in the learning of Deaf students in Tanzania.

1.4 Aim of the Study

This study aimed to determine how the first phase of implementing inclusive education facilitated Deaf students' academic progress in Tanzania. In this regard, this research focused on the learning experiences of Deaf students and the interaction among them and hearing students on one hand and teachers on the other. Hence, the study explored data regarding teachers' and students' experiences of practices in the classroom and within the school context.

1.5 Rationale for the Study

This research explored the contribution of the first phase of implementing inclusive education on the learning experience of Deaf students in Tanzania. The rationale for the study was in two folds; firstly, I noted, in both research and practice, a continued dropout of Deaf students between 2010 and 2017 (URT, 2017). For example, research shows that of the 134 Deaf students who enrolled in Form One in all secondary schools in Tanzania in 2010 only 63 completed Form Four in 2013. That is, 47% of Deaf students dropped out of secondary education in the first four years (2010 to 2013) of implementing inclusive

education (Migeha, 2014, p. 33). These findings are consistent with what the Human Rights Watch Report (2017, p. 18) found in Tanzania that the number of Deaf students who drop out of school is twice as much compared to hearing ones while those who attain higher education are less than half several hearing students. The comparison has shown that although the dropout of hearing students has been decreasing, yet it has been increasing for the Deaf. For example, national statistics indicate that in 2012, students who dropped out of school were 76,050 (4%) of 1,884,272 (JMT, 2014, p. 41), in 2016 the total dropout was 63,903 (3.5%) out of 1,806,955 (URT, 2017), and in 2017 it decreased to 61,965 (4%) of 2,148,466 (URT, 2018). On the contrary, statistics have shown that above 55% of the Deaf students who were enrolled in secondary education between 2015 and 2018 dropped out of school.

Secondly, this research sought to analyse the trend of Deaf students' academic progress as compared to hearing students. This is attached to the fact that Deaf students are consistently lagging behind their hearing peers in secondary education. For example, statistics show that unlike hearing students who are doing far better in their studies, of 235 Deaf students who sat for the National Form Four Examination in Tanzania from 2008 to 2011, only 19 (8%) passed (National Examination Council of Tanzania), 207 (88.1%) failed (Migeha, 2014, p. 6) while 9 (3.9%) did not sit for the same examinations (National Examination Council of Tanzania). This fact is well supported by a report on Deaf students' performance in secondary education examination which shows that all 21 Deaf students at Njombe Viziwi, a special school for Deaf students failed in their Form Four National Examinations in 2017 (URT, 2018, p. v). This report states "…there was a longer-term failure trend among Deaf students. On average, the failure rate for Deaf students in the three schools had been increasing steadily from 64% (2015) to 74% (2016) to 96% (2017)." These statistics are also reflected in the President's Office Local Government Continuous Assessment Report (POLG) of Tanzania which indicates that Deaf students regularly got lower grades as compared to their hearing peers for six (2013-2018) years consecutively. Hence, the need for research on the inclusion of Deaf students in the secondary education system in Tanzania.

1.6 Statement of the Problem

Being successful in an inclusive classroom requires several factors including teachers' and students' communication skills adequacy for reciprocal interaction (Hankebo, 2018, p. 479).

Inclusion relies on the quality of teacher's behaviours, accommodative communication tendencies and positive interactions with their students (Hankebo, 2018). All these would need an inclusive policy articulation and school policy change. However, despite the efforts the government of Tanzania has made to enable that Deaf students learn with peers in an inclusive setting, much of the infrastructures in most inclusive secondary schools in the country have remained unchanged (URT, 2018) while Deaf students' learning has consistently lead into a continued dropout of most students while the graph of those who manage to finish their secondary education grows regressively during the first decade of inclusive education (Migeha, 2014; URT, 2017; URT, 2018). Nevertheless, despite the continued drop out of most Deaf students and their unsatisfactory academic achievement compared to hearing peers, the evidence that the first phase of the implementation of inclusive education has enabled teachers, students, and the entire school community to acquire the requisite inclusive attitude, pedagogical skills, beliefs and practices to adequately respond to the practicalities of inclusive education in Tanzania in general, and in schools with Deaf students, in particular, is wanting.

1.7 Objectives of the study

The main goal of this research was to explore how Deaf students have been accommodated during the first phase of inclusive education in Tanzania. To investigate this, the researcher focussed on four areas:

i. learning engagement and cooperation among Deaf and hearing students;
ii. responsiveness of the learning environment;
iii. incorporation of visual needs of learners in class; and
iv. academic progress of Deaf students.

The primary research question concerns how inclusion is being implemented for Deaf students in Tanzania. This was explored by focussing on the following four questions:

i. To what extent does inclusion foster engagement and cooperation among Deaf and hearing students?

ii. To what extent does inclusion create a responsive learning environment for Deaf students?

iii. In what way are the visual learning needs of Deaf students accommodated in an inclusive school setting?

iv. To what degree is the academic progress of Deaf students being advanced or held back by the inclusive education agenda?

This study context focussed itself on the experiences of Deaf students on one hand, and on the other, teachers' and hearing students' experiences of teaching and learning with Deaf students in the realm of inclusion respectively.

1.8 Structure of the Dissertation

This section provides the organization of this research into chapters. Chapter One is an introductory chapter that is equipped with different perspectives of Deaf education. This chapter sets the ground for discussions about the controversial views of Deafness and Deaf education in an inclusive setting. On the other hand, it introduces the reader to different perspectives and debates that result from the conception and implementation of inclusive education across the world with a special focus on sub-Saharan Africa. Therefore, to understand the diverse conception of inclusive Deaf education, different countries have been represented in the literature. Lastly, Chapter One gives the rationale for why this study is important for Tanzania and Africa in general.

Chapter Two introduces the reader to the context of the study. In this regard, people, history, economy, political conditions and education have been examined and explained thoroughly. The chapter aims to enable the readers to familiarize themselves with the country and be able to link and understand the inclusive nature of the education system.

Chapter Three introduces the reader to the theoretical underpinnings of this study. In this regard, it extends the discussion developed in Chapters One and Three. On the theoretical framework, this Chapter has taken the school culture as the lens through which inclusive Deaf education is viewed. Thus, different theories that are related to social interaction, classroom discourse, culture and human rights have been consulted and well-integrated into this study.

Chapter Four extends the discussion started in Chapter One. Through a systematic literature review, a wide range of literature was consulted and discussed accordingly to clarify the research questions and establish the foundation on which this research is built.

Chapter Five presents the methodology that was used in the study. Within the research design, this study has taken the qualitative research paradigm to understand the construction of Deaf ontology in an inclusive school context. Thus, the explanation of phenomenology, as a specific research design that has been adapted to this study, is provided.

Chapter Six takes the reader through the data presentation. Hence, various data are presented depending on the data source. Thereafter, this is followed by Chapter Seven which contains the analyses of data as presented in the previous chapter. Along with data analysis is the interpretation of the findings of this study.

Chapter Eight consists of the discussion of the findings which rely on the available literature, theoretical framework, and the objectives of this study. Therefore, the major research question is implicated in this chapter. Chapter Nine forms the closing chapter which includes the general conclusion and recommendations for inclusive Deaf education in Tanzania.

1.9 Operational Definition of Key Terms

School culture: This refers to the set of policies, curriculum setups, communication modes that are designed for school daily operations. School culture is referred to how it works with accommodation of learning needs of Deaf students in inclusive classes.

Deaf students: This refers to all students who are completely Deaf or hard of hearing. This categorization depends on the levels of hearing loss among Deaf students. In this study, ‘Deaf students’ have been used in a generic sense to mean any student with some degrees of Deafness or hearing loss.

Inclusive Classroom: In this study, this term has been used to refer to the mainstream class in which all students are meant to learn together and receive instructions from the same teachers. This class includes all students regardless of the available resources to cater to specific learning needs for each student.

Deaf Education: This is used in this study to refer to the learning of Deaf students in classes where teachers are pedagogically considerate to Deaf students' learning needs. It may be used simultaneously with 'education of the Deaf'.

Academic progress: It is used to mean the attainment of satisfactory academic grades and progression in an academic endeavour within the secondary schools' contexts.

Chapter Two

Tanzania: Context

2.1 Introduction

This chapter introduces the reader to the context of the study. The chapter aims to get readers familiarized themselves with the socio-political contents of Tanzania; hence, to enable one to be in a position of understanding the whole context of inclusive education in the country. Therefore, the chapter is divided into four sections which are the historical overview, economic situation, political conditions and education overview of the country. Each of the sections of this chapter orients the reader to a general understanding of the country.

2.2 History

Like many countries in the world, the history of Tanzania can be traced back to the 18th century when it was first invaded by Arab traders who moved inland in search of slaves and ivory (Okoth, 2011). The second wave of invaders was in the 19th century when outsiders from Europe came to explore the inland in 1856 (Okoth, 2011). The first group of visitors from Europe was Germans. These made subsequent visits to inlands and later settlement in Bagamoyo (which later became the central market for slaves) in 1871 and 1874. Later, they welcomed Karl Peter in 1884, who was the first trader from Germany. Karl Peter speeded up the penetration to the Zanzibar islands. The German penetration to Zanzibar persuaded the Sultan of Zanzibar to fill in the blank treaty forms and eventually managed to run up the German flags in Zanzibar. Hence, in 1885, the Great lakes region (Victoria and Tanganyika) and Zanzibar were declared German East African colonies. Formerly, the Great lakes region was protected by the Sultan of Zanzibar who also invaded the islands in the early 18th century. Following the German invasion, there was a protest among the natives and this later led to a rebellion against Germany in East Africa, hence leading to the Majimaji[4] uprising revolt between the two groups in 1905. After the uprising in 1907, it took twelve years before the German East African territory was handed over to the British protectorate in 1919 by the Versailles treaty as a preparation for its independence. For this reason, the British formed policies that encouraged indigenous African administration (Okoth, 2011, p. 78) and legal

[4] Maji is the Swahili term for 'water'. The rising gets its name because the belief spreads among the African workers that a magic potion of water, castor oil and millet seeds can turn German bullets to water.

systems. The treaty also granted the mandate to the British to rename the former German East Africa to Tanganyika. Among other issues, the preparation of Tanganyika for independence led to the formation of the Tanganyika African Association (TAA) as the first indigenous political party in 1929 which was later transformed into Tanganyika African National Union (TANU) in 1954. It was this party that led the struggles to the independence of Tanganyika on 9th December 1961 which later became a Republic in 1962. Immediately thereafter, Zanzibar became independent on 10th December 1963 and the People's Republic of Zanzibar was established after the Revolution of 12th January 1964. The two sovereign states of Tanganyika and Zanzibar formed the United Republic of Tanzania (henceforth Tanzania) on 26th April 1964 (NBS, 2016, p. 1). In Map 2 below the entire region of Tanzania (in yellow) was then called Tanganyika. Tanzania is made up of two parts, Tanzania Mainland and Tanzania Zanzibar (see small islands in yellow). It is a sovereign state and one of the six East African Community countries namely Kenya, Uganda, Rwanda, Burundi, and South Sudan as identified on Map 2.



Map 2: The Map of the East African Community[5]

[5]Adopted and modified from www.freepick.com 20th November 2018.

Tanzania covers a vast area of 947,303 km^2 that is administratively covered by 32 regions; 27 regions located in Mainland Tanzania and 5 regions in Zanzibar (NBS, 2016, p. 17). Tanzania is found between longitudes 29^0 and 41^0 East, and latitudes 1^0 and 12^0 South (NBS, 2016, p. 3). Its population size is 54.2 million with a growth rate of 2.7% (NBS, 2019, p. 16). Tanzania is a multicultural country whose people enjoy their diverse traditions and cultural experiences. For instance, Tanzania has more than 120 ethnic languages whose usage as stipulated in the National Cultural Policy (Muzale & Rugemalira, 2008, p. 69). Additionally, there are dances, traditional rites, and customs which differ from one region to the other and all of which are recognized in the National Cultural Policy (URT, 1997, p. 3). This makes the population of Tanzania to be characterized by cultural differences and ethnic groupings which are identified through languages, gender, religion, political affiliations, and disabilities. There are no current data regarding religious affiliation in the country, however, the available data shows that the main religious affiliations are Christianity (61.4%), Islam (35.2%), Fork religions (1.8%), others (0.2%), and Unaffiliated (1.4%) (Omari, 1983).

Tanzania has two official languages – Kiswahili and English. The people of Tanzania use Kiswahili as the national and main language of communication and English as an additional official language. Both are languages of instruction at all levels of education (JMT, 2014, p. 38). Owing to the communication needs of Deaf persons and the need to create an inclusive society, Tanzanian Sign Language (TSL) is pronounced as the language of communication among Deaf persons (JMT, 2014, p. 37). This has been followed by the official pronouncement of TSL as both a subject and language of communication in schools with Deaf students (TIE, 2020). However, much of which this pronouncement will be implemented remains an area of research.

Persons with disabilities in Tanzania constitute 5.7% of the entire population[6] (NBS, 2019). The census (described in Table 4) identifies six categories of disabilities.

Type of disability	**Visual**	**Hearing**	**Physical**	**Self-care**	**Cognitive**	**Communicate**
Estimated no.	1,123,390	555,315	975,076	424,617	703,123	296,118
%	2.48	1.23	2.15	0.94	1.55	0.65

Table 4:Population aged 5+ years by type of disability: adopted from (URT, 2019)

[6] This data is based on the National Bureau of Statistics (NBS), Integrated Labour Force Survey 2014.

Within the population of persons with disabilities, Deaf persons –the age of five years and above – make 1.2% (*N=555,315*) of the entire population of the country (NBS, 2019, p. 31). Yet, the actual number of those in secondary education remains uncertain, and this impacts their inclusion in various social settings. Similarly, there are no statistics that exist for younger children with disabilities owing to a lack of early diagnostics and screening at the early ages after birth.

2.3 Economy

A large percentage of the population of Tanzanians (about 80%) lives in rural areas where their main economic activity is agriculture (NBS, 2016, p. 54). Tanzania has experienced a stable political development which has had a significant positive effect on its economic growth (Krohn-Nydal, 2008, p. 15). According to the national statistics, the gross domestic product (GDP) of Tanzania by 2018 was 6.7% and it is projected to grow yearly (NBS, 2019, p. 46). The economic growth is projected in line with, among others, labour force that will contribute to enhanced production (JMT, 2014, p. 4). The labour force will be prepared through the national education system which will be explained in the next section (see section 2.4). The main economic activities of the country are agriculture and mining as the primary activities; manufacturing, electricity, gas and water as the secondary activities; and wholesale trade, retail trade, information and communication as tertiary activities (NBS, 2019). Agriculture, which accounts for half of the GDP and employs almost 90% of the workforce, has a very important economic role in Tanzania (NBS, 2019, p. 58). However, apart from the general data on the prevalence of disability in the country, specific data on the economic status of Deaf persons remains an area of research.

2.4 Political Landscape

Tanzania's political situation has continually been gaining new shapes since the colonial era. It was in 1929 – during the British colonial regime – when the first political party – Tanganyika African Association (TAA) – was formed by Julius Kambarage Nyerere (son of the chief) as an initial stage for liberation movements (Mushi, 2009, p. 70). The formation of TAA made Tanganyika be under the mono-party system. The transformation of TAA into the Tanganyika African National Union (TANU) in 1957 was an achievement on the expansion of struggles for independence (ibid). Eventually, in 1961 Tanganyika got independence and

Julius Nyerere became the first Prime Minister and later a President in 1962 when Tanganyika became a Republic. After the union of Tanganyika and Zanzibar and later the birth of Tanzania (see section 2.2) in 1964 (NBS, 2016, p. 1), Tanzania entered into a multiparty system whereby TANU (mainland) and Afro Shiraz (coast) formed the two powerful political parties in the country, and Mwalimu Julius Nyerere became the first democratically elected president of the United Republic of Tanzania (NBS, 2016, p. 1). In 1977, Mwalimu Nyerere merged the Afro Shirazi Party with TANU to form Chama Cha Mapinduzi (CCM) translated as the 'Revolutionary Party' (Krohn-Nydal, 2008, p. 15).

Since 1977, Tanzania was under a single-party system until 1st July 1992 when the constitution was amended and the country introduced a multi-party democratic system (Krohn-Nydal, 2008, p. 15). Since the rebirth of multiparty democracy in Tanzania in 1992, the country has witnessed the registration and increase from 4 political parties in 1992 to 19 political parties in 2019 (NBS, 2019, p. 33). Tanzania holds a general election in a five-year term where eligible citizens have opportunities to vote for the presidency, members of parliament and councillors (NBS, 2016, p. 39). According to the constitution of the United Republic of Tanzania, any citizen above 18 years and who has proper mental health is eligible to vote and/or being voted (URT, 2005). This provides a wide opportunity for every citizen, regardless of their disabilities and diversities, to participate in the elections, which makes elections to e inclusive. For example, elections regulations that recommend persons with disabilities to be given the first chance to vote (NEC, 2020) not only create a chance for such persons to participate in elections but also demonstrate the need to respect the rights of the very person.

The first multiparty election was held in 1995 with 11 parties registered, and the latest was held in 2015 with 19 registered parties participating in the exercise. Different persons with disabilities have been reported to contest for different positions at different levels of the election. However, challenges are still witnessed regarding the participation of Deaf persons in contesting for different chances – as no data of the same. The last election was won by Dr. John Pombe Magufuli as president of the United Republic of Tanzania (NEC, 2020). Magufuli served for few months before his death on 17th March 2021. His chance was therefore taken by her Excellence Samia Suluhu Hassan, who was sworn in as president for the remaining period of five years. Hon. Samia was a Vice-President of the United Republic of Tanzania.

2.5 Education

The Tanzanian education system goes back to pre-colonial regimes of both the German and the British (Fundi, 2016). History of education shows that before colonialism, informal tribal education systems on rituals and initiation rites into childhood existed among tribes in-country (ibid). The pre-colonial education systems were designed to prepare youngsters for adulthood. Hence, education was offered through storytelling, dances, and experiential activities (Fundi, 2016; Seni, 2013; Mushi, 2009). The formal education system was introduced by Germany and the British in the early 19th century (Fundi, 2016). It was during this time when several Evangelical Christian schools were introduced in the country. These schools focused on training indigenous people to be used in local governments and to train domestic assistants (Seni, 2013, p. 9). Later when the British took power in 1919, they opened a special school in Tabora (western part of the country) to train only the sons of elites and local chiefs to assist the British in their ruling. Generally, the provision of education during the colonial regime was about colour, religion, and gender, hence schools for Europeans, Indians, and Africans (Mushi, 2009, p. 75).

During the post-colonial era, the education system of Tanzania maintained following the colonial education system. Tungaraza (2011, p. 1) establishes that after independence, Tanzania inherited the British system of education which has continually been reformed by the government at different times to meet the specific economic, political, social and technological needs of Tanzanians. Such education reforms include the adoption of *Education for All* which was the agenda of the Addis Ababa conference in 1961 – which called for all African states to decide on their priority education needs to promote economic and social developments as well as to develop universal primary and adult education by 1980 (Mushi, 2009, p. 98). Education for All emphasized adult education and the need to reduce illiteracy levels which were created by colonial education. Another reform was the Three-Year Development Plan (1961 – 1964) in which education was part. The plan focused on the expansion of secondary and teacher education to meet workforce requirements (Mushi, 2009, p. 98).

The First Five-Year Development Plan (1964 –1969) was another reform that affected the education system. This plan prioritized adult education as a short-term investment whilst emphasizing a longer-term investment in children (Mushi, 2009, p. 104). Hence, in 1967

Tanzania adopted *Education for Self-Reliance* (ESR) as a new educational road from colonial education to national education (Mushi, 2009, p. 109). As one of the resolutions that were reached during the TANU special convening in 1967 and that led to the Arusha Declaration[7], ESR aimed to develop thinking among students and imparting in them the ability to use available resources for their societal development (Vavrus & Bartlett, 2013, p. 11). It can be recalled that soon after independence, the government's focus was to develop manpower to sustain the slowly growing economy and thus lessening the dependence ratio among its citizens. Hence, the adoption of ESR as a country's education philosophy was inevitable at that time (Mushi, 2009, p. 109). However, there is no data on how Deaf students in particular were included in such education provisions. Despite that there was no formal statement on the inclusion of Deaf students in education, the adoption of ESR under the Arusha Declaration was a roadmap towards recognizing students with disabilities in the education system.

The Second Five-Year Development Plan (1969 –1974) envisaged changing primary schools into community centres (Mushi, 2009, p. 126). This led to formal and non-formal education being integrated at the village level (Mushi, 2009, p. 126). In 1969, Tanzania passed the Education Act that forced the government to nationalize all private schools. Thus, education provision became the sole role of the state. Among others, the Education Act intended to equalize education provision to all children in the country. In 1975, the Universal Primary Education (UPE) was inaugurated in the country (Mushi, 2009, p. 127). With UPE, primary education was made mandatory for every citizen. UPE was a continuity of the governments' education reforms to reduce illiteracy in post-colonial Tanzania. Among other things that resulted from the second 5-year development plan was the nationalization of the private sector and centralization of major economic sectors. For example, secondary schools and teacher colleges that were owned and run by churches were nationalized to equalize education provision to all children. Yet at this time as well, no data on the inclusion of Deaf students in secondary education. This might have been affected by the education policy to make primary education compulsory to all children of school age.

From the 1990s, the world witnessed radical calls for provision and equalization of education to all groups of people. For example, the World Conference on Education for All (1990),

[7] It was a policy decree of Tanzania towards Africannes that was declared in Arusha (a northern part of Tanzania) on 5th February 1967 by Mwalimu Julius K. Nyerere – the President of Tanzania at that time.

Pan-African Conference (1993) which emphasized education for girls, and the Salamanca Statement (1994) entirely addressed the need for inclusion. These International Educational forums impacted Tanzania's Education Policies such as Education and Training Policy (1995), Education and Vocational Training (1996), National Education Policy for Higher Learning (1999), and the Policy on ICT for Basic Education (2007). All these policies were thereafter geared to provide quality education for all through addressing some barriers to presence, participation, and learning (JMT, 2014, p. vii). The education system of Tanzania is divided into three groups namely primary, secondary, and tertiary education. This system is shown in Table 5 below:

Level	Age (Years)	Education	Duration in the phase-in years	Medium of Instruction
Primary	3 – 4	Pre-primary school	Pre-grade	English or Kiswahili
	5 – 10	Primary school	Standard 1-7	English or Kiswahili
Secondary	11 – 14	Ordinary school	Form 1 Form 2 Form 3 Form 4	English or Kiswahili
	15 – 16	Advanced school	Form 5 Form 6	English or Kiswahili
Tertiary	17 – 19	University	3+	English or Kiswahili

Table 5: Tanzania Education System: adopted from Tanzania Education Policy, (JMT, 2014)

The formal education system of Tanzania is structured according to three successive levels that start with Pre-primary education for 3-4 years old children. It is aimed at promoting the children's overall development and prepares them for primary school education, which is six years, and ordinary secondary education for four years. Primary and ordinary level secondary education are considered 'basic education' which is compulsory for all Tanzanian children (JMT, 2014). After ordinary secondary education, one joins the advanced-level secondary school education (i.e. Form 5 and Form 6). Lastly, a student can choose to move onto tertiary and higher education – which leads to awards of certificates, diplomas, or degrees.

According to the Tanzanian Education Policy (2014), Tanzania practices inclusive education in which all students, regardless of disability or special learning needs, are taught in the same regular classes, receive instruction and assessments from a regular or specialist teacher in

schools typically known as regular schools (JMT, 2014, p. 34). At the end of primary and secondary education levels (Form 4 and Form 6), students are required to sit for their final national examinations which are administered by the National Examinations Council of Tanzania (NECTA). Grades and assessment criteria have been pre-determined by the Education Policy **(**JMT, 2014, p. 40). In a course of this, the policy established the ground on which all students are supposed to be taught in uniform settings – regardless of their learning needs. The inclusive education approach is discussed briefly in sections 1.4 and 3.3.

2.6 Tanzanian Philosophy of Life

Background to section 2.2 of this chapter, Tanzania is a multicultural state with more than 120 ethnic languages (Muzale & Rugemalira, 2008; Tibategeza, 2009). It, therefore, makes it difficult to determine the general culture of the country as each ethnic group is attached to its ways of living and understanding things. However, the general orientation of life and the national culture is attached to the socialist view that is described in the decree of the Special Convention for Arusha Declaration (TANU, 1967, p. 2) that:

a) binadamu wote ni sawa *'all people are equal'*
b) kila mtu anastahili heshima *'every person deserves a respect'*

This declaration intended to remove all sorts of discrimination and segregation as an attempt to create a community that respects one's differences and challenges. The convention aimed to promote equality and respect for all people as pronounced by the United Nations Declarations for Human Rights (TANU, 1967, p. 2). The TANU decree aimed to create a socialist ideology that accepted every person regardless of his or her gender and ethnicity. This ideology thereafter affected other areas of education, politics, economy, and social life (Seni, 2013). For example, the National Constitution, 1977 starts by reiterating that Tanzania is a socialist state (URT, 2005, p. 12) and this is a mandatory definition of humanhood as explained under a socialist view above. The decree that 'all people are equal' orients every person to value one's humanhood.

On the other hand, the decree categorizes disability as an aspect that makes a person not work but rather depend on the abled ones (TANU, 1967, p. 5). This has both strengths and weaknesses especially when one needs to empower persons with disabilities in various spheres. It orients the society to perceive disability as inability and thus making it a burden in life and so does to persons with disability themselves. This situation would result in social

rejection. For invisible disability like deafness, it leads for Deaf persons to hide their identity for them to be socially included, hence conflict ideologies of “d” and “D” deafness. Unlike the national culture, Deaf culture values sign language as a core for the cultural identity of Deaf persons (Benedict, 2013, p. 1). Despite that Deaf persons come from different backgrounds and ethnicities, they are united by their visual perspectives (Benedict, 2013, p. 2). Therefore, owing to the general philosophy of life in Tanzania, this study establishes a viable motive to explore the status of inclusive education for Deaf learners in this regard, especially in providing system support to such learners.

2.7 Conclusion

This chapter introduced the reader to Tanzania as the context of the study. Aspects of history, political conditions, economy, education, and national culture were picked to familiarize the reader about the country in general and the inclusion of persons with disabilities in particular. Just like any other African nation, Tanzania has been much affected by external traditions which were brought by intruders from Europe, Asia, and America. However, even in postcolonialism, Tanzania has retained most of the colonial systems like education, politics, and economics. These systems in one way or another, have contributed to the adoption and implementation of inclusive education through responding to international calls on the equalization of education opportunities.

Chapter Three

Theoretical Framework

3.1 Introduction

This chapter takes the reader through the foundational theory of this research. On one hand, the chapter takes account of various scholars' perspectives on the value of culture and community within schools, and on the other hand, it discusses how 'school culture' can impact learner's experience of school life, collaboration, and cooperation. In this respect, the role of culture in interactional behaviours among members of the schools will be discussed in connection with the adoption of inclusive Deaf education in Tanzania. Thus, this study uses Bruner's culture in education as an educational theory that sheds more light on how inclusion influences Deaf students' academic engagement in inclusive schools. Bruner's ideas surrounding the *Culture of Education,* and Gloria's idea of *Culturally Responsive Teaching* focused on enhancing active learning among students. This study argues that adoption of inclusion necessarily implies changes beliefs, practices, and communication among members of the school. This has been Bruner's contribution to education since then. Jerome Seymour Bruner (1915-2016) is an American Psychologist who made renowned contributions in human cognitive psychology and cognitive learning in education. Gloria J. Ladson-Billings (born 1947) is an American theorist and teacher educator. Ladson-Billings is known for her work in the fields of culturally relevant pedagogy. Therefore, in sub-sections below, the two theories will be discussed in light of how it forms the nucleus to this research.

3.2 An Overview of Culture

Culture is a broad concept with wide definitions and interpretations; hence it is deeply contested. Despite its wide interpretations, core debates revolve around the content of culture, its relationship to society and civilization as well as its function and role in the human condition (Mathews, 2013, p. 1). In developing this account, I perceive culture as a normative with a definite end in life. In this case, it is generally related to how people are attached and respond to their environments. The underlying assumption in the definition of culture is that ways of living are prescribed by respective cultures. In this regard, therefore, it inhibits the chance for a person to live according to his or her line of thinking. On the other hand, culture establishes the role of shaping the mind and determines how people look at each other.

Storbeck & Magongwa, (2006, p. 113) look at it in the same way as they mention that "culture pervades our everyday life: everything we do, we say, and we experience. It is an integral part of who we are". It is true from their conception that nothing is done without the influence of culture. In this case, culture is a powerful weapon of influencing persons' thinking and actions. Meier (2011, p. 807) sees the same and supports that "the study of culture is merely a study of social facts". This argument emphasizes that culture is something that is agreed upon and shared by society. It shapes the social reality hence orients ways in which members of the particular society should think and react. This background sees the school as a 'society with shared practices, beliefs, arts, values, and social facts. For example, "…a school is made up of teachers, administration, students, parents, and community partners who construct and make decisions based on the underlying interdependent belief systems" (Meier, 2011, p. 807). In this way, the research adopts 'school culture' as a tool of impacting students' learning and it is well elaborated in the next section.

3.3 Consequences of School Culture

Research has confirmed that human behaviours are influenced by their social environments. Given that a school is a social environment, it necessarily affects how its members behave. Apart from the positive effects of a school culture which will be discussed throughout this section, this section documents briefly the effects of school culture on students' behavioural development. Aspects like fairness, students' interpersonal relationships, teacher-student relationships, and motivations (Story, 2010, p. 40) have been counted to be closely influenced by school culture. These aspects have contributed greatly to building a school ecosystem that affects every aspect of the school atmosphere. In interpersonal relationships, for example, school values and controls can have a great contribution to how members of a school look at each other. Meier, (2011, p. 806) argues that these aspects are influential in terms of how they can build a school environment in terms of growing ideologies, mission, and vision. This school environment can contribute to the development of individual cultures including but not limited to professional decision-making. Other researchers have shown that school culture is the main predictor of how teachers work (Joseph, 2000 in Meier, 2011, p. 806). This indicates that teachers' teaching activities are closely guided by the specific school culture in place. If the school culture is not inclusive, therefore teachers' work will be as well exclusive owing to the school beliefs and developed teacher's beliefs. In general, the consequences of school culture can have both positive and negative effects on what teachers and students do

and how they do it. This includes the development of traits that are closely related to the school culture, and much of these effects are discussed in the following sections below.

3.4 Culture as an Educational Theory

This study is grounded on the theoretical framework of Jerome Bruner's culture. The theory provided an understanding of culture in education and the extent to which students' learning environments can be manipulated by cultural perspectives of the society. From his earlier works, Bruner (1996, p. 1) considered education as the key agent for the transmission of culture from one generation to the other or among the member of the school. This is following the fact that school policies and values are powerful tools for influencing the behaviour of students and teachers. Hence, his contributions impacted greatly on school policy formulation and administration. Essentially, Bruner believed that education is not an isolated phenomenon but rather an interplay of different elements of culture (Bruner, 1996, p. 1). Bruner has shown the importance of bringing other cultural aspects like communication and language amidst language provision. Proper school policies – like language and communication policies – that are sensitive to students' cultural and linguistic histories are indicators of culturally inclusive spaces. Bruner's insistence on culture in education focused on how education shapes the mind. His view that 'education and culture' are inseparable shades a light to consider two things: 1) education provision as a cultural process, and 2) enhancement of cultural values in the context of education provision. The two are closely related yet each takes its path. In considering the role of culture in education, Bruner (1996, p. 3) succinctly puts it that "culture shapes the mind and the mind shapes meaning". Although the meaning is in the mind, it owes its origin in the culture. And therefore, learning and thinking are usually situated in a cultural setting. This contention underscores the 'co-existence of education and culture.

Unlike other psychological theories that not only rely on the cognitive theory but also regard learning as a mono-directional phenomenon, Bruner's culture considers learning as an interactional process that includes the sets of values, skills, and ways of life that are essential for meaning-making (Bruner, 1996, p. 3). Bruner critiques other psychological theories for discarding the primary cultural context of child development in education planning, administration, and evaluation. He argues that "though it is obvious to say that the child is born into a culture and formed by it, it is not plain how a psychological theory of cognitive

development deals with this fact" (Bruner, 1996, p. 6). This argument considers not only the role culture has in shaping the development of a person but also the need to put education as a culture-centered phenomenon.

Bruner's culture, as an educational theory, ascertains that education is the process of negotiation between the individual and culture (Takaya, 2008, p. 4). This negotiation may either lead to students' attachment to the school or a disagreement which eventually results in students' development of belongingness or isolation behaviours respectively. The process of negotiation takes account of what Bruner emphasizes as the "vitality of culture-embeddedness" (Bruner, 1996, p. 18) in education. Culture embeddedness allows students to not only share different experiences, histories, and values which are essential for independent life after school but also promotes knowledge, skills, and students' optimism.

Furthermore, Bruner sees the school as the culture itself (Bruner, 1996, p. 98) whose role is the transmission of culture from one generation to the other. The school culture is reflected in language and communication policies, pedagogical styles, curriculum, and power all of which shape students' ways of thinking, acting, and the development of coping strategies.



Figure 1: Interrelatedness of the school culture

As it has been emphasized by Bruner, culture influences the transmission of values from one person to the other. This qualifies culture to be an active and interactive process that influences how people think and act. Hence, aspects like communication, pedagogy, language, and others (see Figure 1 above) get their meaning from the culture in which education is provided.

3.4.1 Culture in Learning and Teaching

Bruner considers the process of teaching and learning as a matter of communication. It is typically about mastery of content and inherent communicative process and learning (Bruner, 1996, p. 178). Hence, the more integral the communication process in a school, the more responsive the learning environment for students. Unlike traditional views that consider learning as the relationship between a student's mind and the object of knowledge (Takaya, 2008, p. 9), Bruner considers learning and both a process and product of interaction as is shown in Figure 2 below. The relationship between layers shows the process of creating a responsive atmosphere for students' cultural diversities.

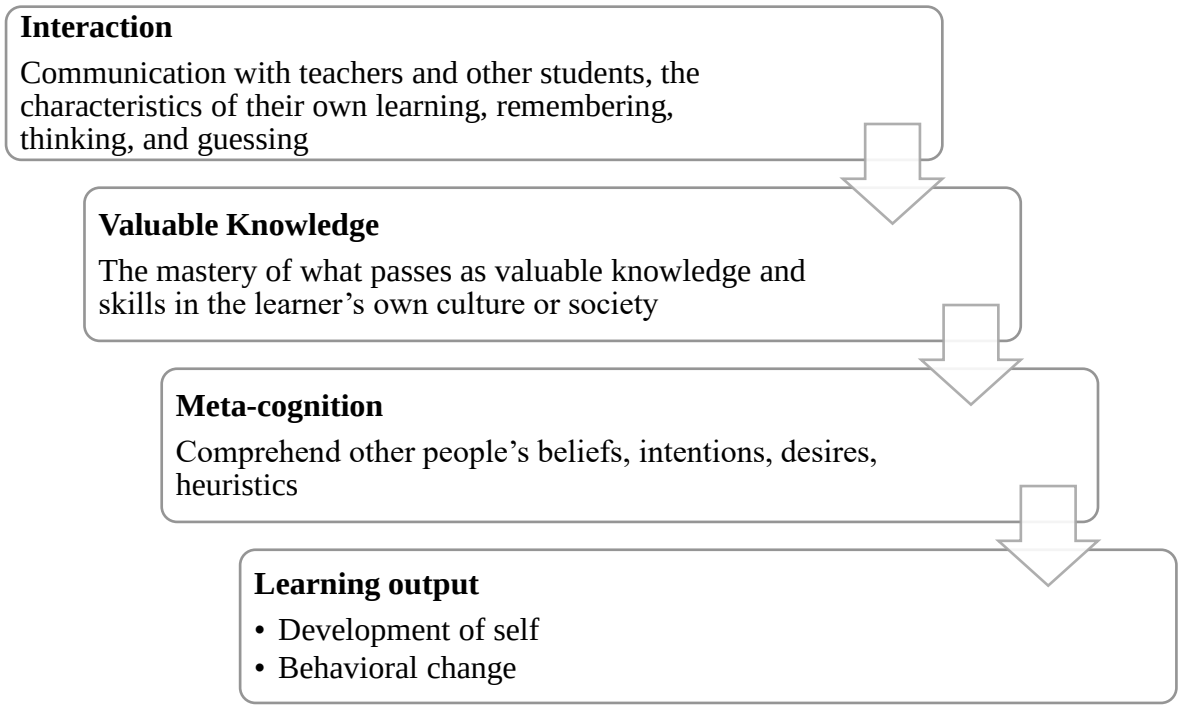


Figure 2: Levels of learning (Research, 2020)

According to Bruner, the creation of the responsive school culture involves interaction, valuable knowledge, and meta-cognition, among members of the school. These layers relate and connect. In the first layer, students' interaction is enhanced by their ability to

communicate with peers in schools. Through communication, teachers and students understand and share histories and cultural backgrounds. This is an essential stage of establishing relationships among them. However, through well-enhanced communication and interaction among students and teachers, other aspects like characteristics of students' learning, ability to retain memory, reasoning, and judgement, and guessing are learnt and enhanced. Consequently, the more the interactive society, the more recognition of diverse cultural experiences which is the next layer.

The second layer is the result of the interaction that has been initiated in layer one. This layer suggests that the diverse cultural space that has established interactional relationships among members of the school leads to acknowledging students' own cultures. Acknowledgement of learner's culture includes considering the role of student's prior experiences and knowledge, and the specific learning skills of the learner. However, student's learning skills and experiences lead to enhancement of the Meta-cognition which is a major component of the third layer.

The third layer deals with the promotion of Meta-cognition among members of the school. According to Bruner (1996), Meta-cognition is a "capacity to understand not only particular content but also the psychological or intellectual processes and strategies one uses in acquiring the content". This definition highlights the need to consider how the mind works (Takaya, 2008, p. 10). With Meta-cognition, the school community is encouraged to understand how to comprehend other people's beliefs, intentions, and desires. This level also insists teachers give feedback to students regarding their learning. Feedback is a good tip for students' learning behaviours since students understand the teacher's tones, expressions and gestures hence reflect how they are perceived by their society.

The fourth layer is the result of the three layers above. At this level, students' academic progress is enhanced by their ability to communicate with peers in schools. Through communicating with teachers and other students, characteristics of their learning, remembering, thinking, and guessing are enhanced and promoted. In this regard, the more the interactive society, the more belonging and protective students feel.

The above three layers have significant effects on the bottom layer. Figure 2 indicates that the 'development of self' and 'behavioural change' are seen as the result of a process of

negotiation between the individual and culture (Takaya, 2008, p. 4). Hence, the academic progress of students is an indication that students' development of self has been influenced by the respective curriculum of the school. So, students' tendencies like truancy and dropout are considered to be propagated by communication and interactional behaviours among members of the school.

As it is described in Figure 1 above, school culture is central to the development of students' interactional behaviours through enhancing diverse cultures of teachers and students, and the minds of students towards the entire classroom learning and school culture in general. By considering culture, Bruner establishes that education works best when it is participatory, provocative, communal, and collaborative (Bruner, 1996, p. 84), but more generally, when education is a process of meaning-making rather than receiving. In this regard, Bruner's culture upholds that learning is an active process of generating new knowledge. Thus, the role of the teacher is to enable students to use their previous experiences and knowledge to construct the meaning of words and situations in which they are engaged. This goes to his assertion that school cultural aspects like a classroom and school organization(s) reflect how reality is constructed.

3.4.2 Culture and Curriculum

According to Bruner, the whole process of education - from curriculum designing to classroom teaching – should be determined by culture and situated knowledge of the particular group of students (Bruner, 1996, p. 3). This contention is consistent with what Takaya (2008, p. 2) underscored that curriculum theory needs to locate the most valuable part of the culture that would consider students' cognitive capacity. Stating it differently, individuals' cognitive capacity works best when it is connected to one's culture. Assumptions behind the relationship between culture and curriculum propose that curriculum is the driving engine for education provision, hence there is a need to emphasize its role in shaping the attitude of teachers and students. Thus, the inclusion of the deaf and diverse learning needs of students needs to be well addressed in the respective curriculum.

However, considering the ability of education in creating a sense of self (Bruner, 1996, p. 36), Bruner recaptures the necessity of a wide representation of education stakeholders in the process of developing the curriculum and education planning. The diverse engagement of these stakeholders in education planning considers the fact that nothing is culture-free

(Bruner, 1996, p. 4) and that education is ought to reflect the culture of the respective community in which it is offered. This goes back to Bruners' submission that education works best when it is participatory, provocative, communal, and collaborative (Bruner, 1996, p. 84).

3.5 Culturally Responsive Pedagogy

Along with Bruner's theory of Culture, this study is also supported by a theory of Culturally Responsive Teaching (CRT) that was made popular by Dr. Gloria Ladson Billings in the early 1990s. CPT is broadly defined as teaching in purposeful ways that integrate the values and culture in a sustainable community. The theory of CRT considers teaching as the process of incorporating diverse students' cultures and backgrounds. The theory looks into students' histories and cultures as the main steppingstones to learning. It does not only end by reconsidering the power of culture in learning, but it goes beyond giving students the power to rethink the values of education they get or the knowledge they acquire (Ava & Page, 2020). This is a powerful element of integrating knowledge into a student's real life. For marginalized students, this pedagogy reinforced the improved outcomes whereas, for teachers, the theory provokes that learning starts from what student's experience (Amy, 2018, p. 23) by promoting engagement and cooperation among students. Among other values of the theory, it is apt for creating an inclusive learning platform.

According to Gloria, our brains are wired to make connections, and this makes it easy for our brains to learn and store information when they are hooked to background knowledge (Pirbhai-Illich, Pete, & Martin, 2017). Gloria saw the use of CRT as the way to increase students' academic achievement by integrating their cultural differences in classrooms. CRT enables an inclusive learning sphere because it raises expectations for all students, helps students feel valued, and creates cultural competence. (Pirbhai-Illich, Pete, & Martin, 2017).

In a classroom situation, CPT is emphasizing the need for teachers to be committed to cultural competence, establish high expectations, and position themselves as both facilitators and learners. However, in implementing the CRP, Samuels (2018) found that there are some commonalities regarding teachers' perspectives on CRP – including advantages and challenges – some of which is the time needed for implementation of the model.

Just like Bruner's conception of creating an inclusive culture, CPT seeks to create relationship-building, fostering cross-cultural understanding and inclusiveness, and

influencing more diverse world views – that is, to create more positive relationships. Through these relationships, students become willing to share and take risks and establishes a classroom culture where students are willing to take off their masks (Kafele, 2013).

CRT is multidimensional in that it encompasses curriculum content, learning, context, classroom climate, student-teacher relationships, instructional techniques, and performance assessments (Ava & Page, 2020, p. 34). These areas are key in the implementation of inclusive education because they create an ecosystem situation in which every student feel welcomed and safe. Apart from its challenges like overcoming existing personal biases, CPT provides students with an opportunity to let their voices be heard and engage in conversations.

In this study, this theory is apt for the inclusion of Deaf students whose cultural backgrounds need to be well integrated. The exploration of school culture is therefore glued to the expectations of the model that student's cultural diversities and backgrounds are respected and brought to be part of the learning process. It has been underscored that students are central to learning and teachers' roles in the learning is to facilitate and therefore become learners as well. So, in exploring the inclusion of Deaf students in schools, CRT underscores the need to adjust all support systems to respond to the cultural needs of Deaf students. Generally, this theory sheds light on areas inclusive education needs to capitalize hence makes a great theoretical foundation.

The two theories are not specific to the particular group of learners. However, in the context of this study, the theory of culture has been taken as a theoretical framework given its ability to provoke more questions regarding the implementation of inclusive education and more specifically, the inclusion of Deaf students in the secondary education system in Tanzania. Both theories not only agree that culture is a fundamental aspect of creating a more responsive learning sphere for students with limited access to education but also emphasize the need to adjust support services and adapt to a more inclusive culture. This study reiterates that the inception of inclusive education means changing the entire culture of the school which includes communication styles, classroom teaching and learning behaviours, teachers and parents' involvements in education, all of which aim to change students' learning and interactional behaviours, hence affecting the entire academic progress of Deaf students.

Similarly, in this theoretical framework, the school is taken as an agent of cultural transmission given its powerful role in modelling how students and teachers can be creative

in knowledge generation. In the broad context, the inception of inclusion is considered to impact members of the school with the ability to understand and appreciate one's culture and heuristics. For example, in-classroom teaching, culture calls for teachers to adjust their teaching behaviours from their mechanistic approach to a more transformative one (Takaya, 2008, p. 5). Thus, the role of the teacher is far important in education than the role of the curriculum (Bruner, 1996, p. 85) given his or her ability to stimulate interaction and learning among students (Takaya, 2008, p. 5). So, culture – as an educational theory – sheds more light on the theoretical underpinnings of this study. This theory sheds light on teachers' classroom practices, students' cooperation, and interactional behaviours, learning adaptations, and eventually, the academic progress of Deaf students in particular.

3.6 Conclusion

Culture, as educational theory, builds on how a member of the school interacts with and understands one another. This theory departs from seeing education as an individual's responsibility to more communal and shared responsibility. In this case, communication and interaction behaviours are regarded to be important phenomena for building an inclusive culture. Inclusive school culture is important for Deaf students' development of self. This is on the background that culture shapes the mind (Bruner, 1996, p. 3) which in turn, raises Deaf students' self-esteem (Lewis & Norwich, 2005, p.18). Bruner underscores the need to reconsider the place of students' cultural backgrounds in setting out plans for curriculum provision to Deaf students. These plans will include enabling responsive learning spaces for Deaf students learning diversities, hence promoting their learning possibilities and more positive academic achievements.

Chapter Four

Literature Review

4.1 Introduction

This chapter examines the existing research and literature on the inclusion of Deaf students in regular schools. The review is vital in establishing a sound foundation for this research. The review of the literature was done also to provide a deeper understanding of what already existed in the research field and to provide the researcher with the necessary tools with which he would make a review of the first phase of inclusive Deaf education in Tanzania. For a wide review of literature, specific protocols of the literature review are explained in the sections below. This chapter employed a systematic literature review, following the specific protocol within the PRISMA statement of a systematic review (Moher D. , et al., 2015). In particular, this chapter employed a systematic search and narrative literature review to enable the researcher both to map and assess the existing intellectual territory, specify the research question, and develop the existing body of knowledge further.

4.2 Literature Search Strategy

The primary search was to identify appropriate terms for search within the electronic library repositories of the University of the Witwatersrand. The search involved the following sources: JSTOR, reference list from diverse research, and EBSCO host which is a multidisciplinary collection of databases, including Educational Resource Information Centre - ERIC, Education Research Complete. The mentioned databases were chosen as a result of a discussion with researchers and expert research librarians who underscored the fact that these research databases were expansive.

Background to the problem statement, research objectives along the theoretical framework were used to select eleven keywords for systematic search through the online databases of the relevant literature. A keen search for keywords was done in line with the focus of the research question. Such keywords emanated from the dependent and independent variables of this research. The keywords were ‘Education and culture’, ‘inclusive Deaf education’, ‘inclusive education in Africa’, ‘inclusive education in Tanzania’, ‘Deaf education’, ‘inclusive education’, ‘Deaf education in Africa’, and ‘Deaf education in Tanzania’, ‘students

cooperation', 'visual learning', and 'academic progress'. These keyword searches were selected to access a wide material search that would provide adequate information about what other researchers had done and how the current body of literature contributed to my understanding of the topic of inclusive education for Deaf students.

On the other hand, to be selected for this narrative review, the following criteria were to be met: (1) peer-reviewed journal articles, journal articles, peer-reviewed conference proceedings, book chapters, and dissertations; (2) published between 2008 and 2020; (3) published in English or Kiswahili. On the completion of the search with all keywords, I scanned all 506 articles to remove any duplicates, after which all titles and abstracts were screened for relevance. Finally, all the remaining articles were put into six categories (see Table 8). Table 7 illustrates the whole procedure leading to the identification and selection of the literature that was involved in the systematic literature review. For clarity, the number of publications in each category is written in numerals.

Search host	**Number of literature**	**Description**	**Exclusion protocol**
EBSCO (ERIC, Education research complete)	176	120 removed	16 duplicates, 86 irrelevant abstracts, irrelevant title, 2 titles published below 2008
JSTOR	319	284 removed	32 published below 2008, 61 duplicates, 161 irrelevant abstracts, 29 irrelevant titles, 1 not in English
Research reference list	11	6 removed	4 irrelevant abstracts, 2 irrelevant titles
Total	506	410 removed	For criteria 1 to 3 above

Table 6: Description of database search results

From the database search process, I identified 506 articles. Following the exclusion criteria indicated above, 96 publications were retained and categorized into the following themes: 'inclusive education' (n= 34), 'culture and curriculum (n=17), 'Deaf education & inclusive Deaf education' (n= 15), students' engagement and cooperation (n=13), visual learning (n=8) learning outcome (n=10).

As recommended within the PRISMA statement (Rutter, Francis, Coren, & Fisher, 2013, p. 48), after classifying the articles into the six categories as per keyword search, articles were also sub-categorizes according to a respective country in which the research was done. Such categories are illustrated in Table 8.

Inclusive education (n=34)	Culture and curriculum (n=17)	Deaf education & Inclusive Deaf education (n=15)	Students' engagement and collaboration (n=13)	Learning outcome (n=10)	Visual learning (n=8)
America=6, Botswana=1, Britain=3 Canada =7, Ethiopia =1, Ghana=1, Greece=1, India =1, Kenya=2, Netherlands=1, Russia=1, South Africa=3, Tanzania=3, Zimbabwe=3,	America=15 Japan=2	America=4, Kenya=2, South Africa=5, Tanzania=2 Zimbabwe=2,	America=7 India=1 Japan=3 Malaysia=1 Russia=1	Australia=1 Canada=3 Greece=1 India=2 Kenya=2 Tanzania=1	America=2 Australia=1 Canada=1 Korea=1 Netherlands=3

Table 7: Database search results

In respect to the systematic literature review search process, six thematic areas were identified in relation to the research questions. In the following sections, a thematic search result (see Table 8) will be synthesized in light of the research objectives and the theoretical framework. Table 7 above shows that Tanzanian scholarships in deaf education and school culture are far less to enable the country to implement inclusive education adequately. For example, the number of studies done in school culture in the last ten years of the literature search is zero while in Deaf education indicates only 2 studies. Despite that the wide discussion regarding Table 7 is captured in the next sections, is the vital engagement of African scholarships in areas of inclusive education for Deaf learners is quite diminishing.

4.3 Assumptions Behind School Culture in Education

School culture is allied with a set of norms, values, beliefs, and collective stories that contribute to the person or culture of the school (Meier, 2011, p. 806). Meier looks at school culture as a composite phenomenon in which learners' beliefs and values are enhanced. Culture is seen widely in the context of education provision as it is central to how all learning takes place (Amy, 2018, p. 22). The above views do not only see culture and learning as separate school entities but complementary aspects of learning as they affect each other. Culture takes a central role in education architecture and provision (Bruner, 1996, p. 8) due to

its ability to influence and harmonise students' cultures and behaviours. This, therefore, makes school culture a nucleus in education (Reno, Friend, Caruthers, & Caruthers, 2017, p. 426). Notwithstanding its importance, the systematic review has identified 17 articles that focus on a school culture of which most of them (15) were from America and 2 from Japan. A literature search revealed that school culture has not attracted significant attention among African scholars and researchers over the past thirteen years. Thus, there was no study so far that had been done in the area. This situation revealed that school culture had not been a focus of study in Africa, hence making it difficult to assess how students' diverse cultural backgrounds feature into education provision processes. Given colonial backgrounds, linguistic, and cultural diversities in Africa, both school culture and the inclusion of Deaf learners in the African education systems are quite important areas for research.

The available research on school culture and culture in education has highlighted a noticeable ability, influence, and relationship between school culture and individual practices and learning behaviours. This is exemplarily shown by Tomari & Kudomi whose study that was conducted in Japan, apparently reveals that school culture has a great role in creating a specific school climate (Tomari & Kudomi, 2008, p. 1). They found that "…levels of competitiveness among members of the school affect the explicit order of the school knowledge and implicit orders of time, space and human relations at school. In return, these orders regulate school sub-cultures; the culture of institutions, the culture of teachers, the culture of students, and the culture of school ethos". The current research puts significant consideration on sub-cultures because they compose the totality of communication and interactional behaviours among students and teachers, and also affect how one perceives the other. To this effect, the role of school culture in the learning process is well articulated. For example, Meier (2011, p. 806) upholds that:

> "…school culture may be seen as underground river offerings, folkways, norms, and values that influence how people go about their daily work. Written and unwritten school expectations develop over time and influence the ideology, vision, mission, and behaviour of the teachers and students in the school society".

This assertion, therefore, reminds us of the need for synchronisation of school policies and norms which in turn will influence the ideology, mission, and behaviours of teachers and

students to a more positive look on the inclusion of Deaf students in regular schools. This involves the establishment of written and unwritten policies that would regulate the entire "school ethos" (Tomari & Kudomi, 2007, p. 1). The mention of 'school ethos' provokes a more philosophical view of inclusive education beyond policy articulation. In this study 'school culture' is regarded as one of the ethe and therefore it calls for a more careful architecture for building an inclusive landscape in schools. Given that schools have a composition of students and teachers who have different social-cultural histories and experiences, the need to define specific school ethos for regulation of schools' daily programmes and responsive learning atmosphere is essential for the respective implementation of inclusive education. Much of the school programmes are discussed in the next section.

Generally, school culture is the conceptual framework through which policies, values, practices, and attitudes are directly or indirectly implemented by members of the school in classrooms and around school premises. Hence, the need to define school-specific cultural frameworks given their roles for students' character development and self-esteem is emphasized by research. For example, at different times, Meier, (2011) and Tomari & Kudomi, (2008) emphasized the need for a school to define its beliefs, values, and motivations which are central in affecting meaning-making among members of the school and consequently impacting the interaction among members of the school.

4.3.1 School Daily Programmes

Building a school culture is analysed from different levels. A review of the literature identified a 'relationship between school culture and its daily practices' (Tomari & Kudomi, 2008; Given, et al., 2010; Meier, 2011; Grover, 2014; Rabi & Pomerantiz, 2016), to be one of the levels constituting of subcultures. These subcultures include rituals, controls, and values of a particular institution. Literature has shown that the role of these subcultures is to enable school programmes to promote cooperation and collaboration among members of an inclusive school. To this effect, the need to recast on rituals, controls, and customs to influence and develop routines (Meier, 2011; Grover 2014; Twombly 2010; Raby & Pomerantz, 2016; Tomari & Kudomi, 2007, 2008) is a paramount role of education ad policy planners and implementors to enable a school to be a home of learners with special needs. A

research problem has identified that inclusive schools have rarely been homes of vulnerable students – which might be due to the inability of schools to identify their ethos.

Designing school programmes reflect ways in which such programmes are planned and implemented. Research has given attention to the two. For example, it was clear that schools derive power from their own culture: rituals, controls, and customs to influence and develop their routines (Meier, 2011; Grover 2014; Twombly 2010; Raby & Pomerantz, 2016; Tomari & Kudomi, 2007, 2008). In their contribution, they evidenced that each school has specific cultural tendencies that affect its daily operation and routines – subject to their ethos. It is, therefore, true to argue that school operations and daily routines form a microcosm of life that impacts students' learning. In this regard, implementation of inclusive education is considered to line up with designing responsive school programmes that take in the learning needs of students. Adjusting school's daily programmes is considered to be the primary intervention for students with learning needs and specific psychosocial behaviours like isolation and self-denial (Reno, Friend, Caruthers, & Caruthers, 2017, p. 433).

Regulating school programmes is thought to be an important departure for affecting teachers' and students' engagement in the learning process, including their attention and the way they do things. Meier (2011, p. 806) mentions that "school culture influences teachers' attention, including their work ethics and the success they achieve to their goals". If this is true, then his statement is further analysed in relation to school programmes: firstly, that the school culture influences the classroom environment and teachers' conduct, and, secondly, that there is the presence of a strong correlation between school culture and its day-to-day activities. However, it may be deficient to consider 'teacher's conduct and work ethics' separately in the context of adjusting school culture. Teachers' conduct is influenced by many factors that would affect the way they feel, think, motivate them, and behave (Donohoo, Hattie, & Eells, 2018, p. 41). School programmes are seen in how the learning process takes place. Reno, Friend, Caruthers, & Caruthers, (2017, p. 426) have been straight forward that school culture determines "how we teach and how we learn". Learning as a process is a composite of many things including school programmes. Despite that learning is not necessarily bounded by school programmes, teaching – as the main agent of learning – does. Teaching is a teacher-centered activity that is entirely affected by teachers' conduct. So, adjusting school programmes is an important attempt at adjusting school cultures.

The correlation between school culture and students' conduct is also reflected in the current research. Literature has shown a positive relationship between the two. Firstly that "school culture communicates behavioral expectations strategy for student intervention (Reno, Friend, Caruthers, & Caruthers, 2017, p. 423). This is well supported by Tomari & Kudomi's research that was conducted in Japan on school culture. In their study, they revealed that the change of absenteeism between the years from the 1950s to 2008 was influenced by the change of school culture (Tomari & Kudomi, 2008, p. 5). At first, after the Second World War, education provision in Japan was affected by competitiveness and this affected ways in which schools operated. Truancy was not a school-associated factor and most parents lost trust in teachers (Tomari & Kudomi, 2008, p. 7). Later, there was a need to change school cultures to eradicate competitiveness and enhance learning for all groups of students. Their major findings identified that the cultural gap between the family and school was one of the determining factors for truancy. Besides, their 34 years[8] analysis of students' school absenteeism showed that school culture constituted almost 28.7% of the other five factors which include individuals (21.8%), family (31.4%), society (11.2%), and compounded (6.1%). In their analysis, school culture ranked second in promoting students' truancy whereas family factors ranked first. These findings indicate that there is a correlational relationship between student's behaviours and school culture. In this regard, the creation of reputable school culture ought not to be taken for granted, hence the quest to have well-pronounced school subcultures is emphasized.

So, in ensuring programmes that are well-articulated on inclusive school culture, Meier (2011, p. 808) lists the following indicators – values, beliefs, practices, materials, and problems. The availability of these indicators – all together – produces the learning environment and general operational behaviours towards learning and students. These indicators enable the school environment to foster a view of a school as a coherent whole as opposed to a classroom with a discrete of interpersonal relationships hence making the school environment responsive to the learning needs of students, much of which is discussed in the following section.

Therefore, school programmes take us to the attention that school cohesion needs to be established in such a way that teachers, students, and policymakers interact and influence

[8] This analysis involved 34 years between 1960 to 1994.

each other and promote collaboration among them. This is well supported by Given, et. al (2010, p. 37) who discovered that collaborative tolerance among teachers and students provokes changes in not only teachers' and school practice but also students' development of self. The development of self as the result of school culture has been highlighted in several studies. For example, Rabi & Pomerantz, (2016, p. 74) have established that the culture of the school influences its students and teachers to develop certain behaviours. As ascertained by Cleveland, et al., (2011, p. 36), "…schools often shape what people think and how they act. This shape includes not only how people relate in an organization but also how communication flows. In other words, organizational culture, which entails the institutional ecosystem, is a powerful influence on the way people live and act, and the way they define what is "normal" and how to sanction those who are not "normal" in organizations".

4.3.2 Responsiveness of the Learning Environment

Students have diverse ways of learning and this discards an old proverb that "One Size Fits All'. In an inclusive setting, each of these ways needs to be included in one learning environment. Creation of a responsive learning space is thus a fundamental stage of accommodating students' learning backgrounds. To this end, creation of an inclusive space calls for a need to refocus on teachers as agents of change. Tuncel (2017, p. 1318) considers the importance of teachers' ability to develop a culturally responsive quality before service, facilitating, and encouraging students' learning in educational environments. Through enhancing culturally responsive learning, students' linguistic diversities and backgrounds are acknowledged and promoted. This in turn holds a gain to developing knowledge and identity among students. The development of responsive learning spaces is central to the role of the teacher in schools. Research has found that "teachers need to learn more about children's worlds to present them better opportunities for learning success" (Pransky & Bailey, 2002/2003 quoted in Tuncel, 2017, p. 1318). By understanding students' worlds, teachers develop learning behaviours that suit their students' diversities. This aligns with the development of metacognition among students and teachers as it is emphasized by Bruner, (1996, p. 18) on the creation of the learning culture that comprehends different learning styles of students. In his major findings, Tuncel (2017, p. 1340) highlights that a culturally responsive classroom is the most suitable one for students' diverse backgrounds and multiculturalism. The culturally responsive classroom can be interpreted differently depending on how it affects students' involvement in learning. For example, given its ability

to enhance interaction among students and teachers, Zaid, et al., (2020) extended their exploration into psychosocial studies in which they studied the nature of classroom responsiveness. Their major conclusion affirms that the psychosocial environment shapes a unique internal process, taking place within an individual as a result of interacting with his environment (Zaid, et al., 2020, p. 2991). Important in a psychosocial environment is the ability of students to freely interact and cherish their diversity. Research has identified eight characteristics that are essential for creating a psychosocial environment. These include; (i) comfortable and friendly ambiance, (ii) free from threats and physical harm, (iii) sense of belonging, (iv) sensitivity and alertness towards individual differences, (v) an environment that stimulates learning, (vi) the creation of open communication, (vii) stimulates cooperative learning, and (viii) equal opportunity for all students (Hamzah & Samuel, 2014; Ahmad & Ahmad, 2018 quoted in Zaid, et al., (2020, p. 2991). These factors make it rather evident that the teacher is central. Hence, his or her communication behaviours, leadership style, and classroom accommodation approach are essential in creating an accommodative and responsive classroom in which all students feel safe and supported.

On the other hand, Shaha & Galantinoa (2019, p. 1446) found that an equitable and psychosocial environment is vital for building emotional intelligence for student success. Emotional intelligence is seen as "the ability to engage in sophisticated information processing about one's own and others' emotions and the ability to use this information as a guide to thinking and behavior" (ibid). In a simpler term, emotional intelligence enables students to manage their feeling, attitudes and emotions towards others, themselves, and the learning process.

4.4 Inclusive Education Practices in Africa

This section discusses the inclusion of Deaf students in African contexts. It argues that despite that inclusive education is widely researched, it has less been done for the inclusion of Deaf learners. The systematic review of the literature identified that there were 49 studies related to Deaf education, inclusive deaf education, and inclusive education:17 from America, 25 from Africa, 1 from Asia, and 6 from Europe. Studies related to Deaf education include 10 from Africa and 3 from America. While African studies focused on inclusion and classroom practices, challenges towards Deaf education (Batamula, 2009; Magongwa, 2010; Kemp, Skrebneva, & Kruger, 2011; Gudyanga, Wadesango, Hove, & Gudyanga, 2014;

Migeha, 2014; Mkama, Philip, Namirembe, & Kilave, 2015), American studies focused on communication and information access to Deaf students both in hearing schools and schools of the Deaf (Brice & Straus, 2016; Ayantoye & Luckner, 2016; Bauman & Murray, 2016). The different focus and viewpoints between Africa and America reflect milestones reached in the implementation of inclusive education.

Considering Africa, the provision of education to Deaf students has hardly considered communication and language diversities of Deaf students instead, most research focuses on debates on whether Africa has incubated for adopting inclusion or not. For example, (Batamula, 2009; Magongwa, 2010; Gudyanga, Wadesango, Hove, & Gudyanga, 2014; Brons & Namirembe, 2018) have consistently highlighted challenges Deaf students face in inclusive classes while leaving behind the solution to problems. Some of the challenges are teachers' attitude towards inclusion of Deaf students (Gudyanga, Wadesango, Hove, & Gudyanga, 2014, p. 448), low scale teachers' interaction with Deaf students (Brons & Namirembe, 2018, p. 190), negative myths towards Deaf students (Batamula, 2009, p. 5), and shortage of Deaf role model (Magongwa, 2010, p. 493). The focus of most researchers on challenges Deaf students face in class is attributed to the fact that deafness is still perceived as the result of a curse (Batamula, 2009; Mbwilo, Smide, & Aarts, 2010; Tungaraza, 2014) hence Deaf persons are unwelcomed in some African societies.

On the other hand, the inclusion of Deaf students in regular schools in Africa has been argued to have been overemphasized as opposed to how resources have been equalized. Equalization of educational resources is an underlying requirement for inclusion (Gudyanga, Wadesango, Hove, & Gudyanga, 2014, p. 449). Because of this, most teachers, students, and school resources hardly suit the learning needs of Deaf students and makes it difficult for Deaf students to engage and learn with peers. The consistent litany on the challenges Deaf students face in inclusive education has not been of help in Africa in the last decade. As it has been shown above, several researchers focused on Deaf learners have either remained on outlining challenges facing such learners, or propose some solutions that have not changed the status of inclusion for Deaf students.

However, a few African researchers have started focusing on the mobilization of such resources to enable Deaf students to learn. For example, Kemp, Skrebneva, & Kruger (2011) from South Africa have shown a good example for such an 'about turn' in inclusive Deaf

education. With them, they studied the best ways to support Deaf students in inclusive schools through developing visual perceptual skills for memory and teachers' concentration to Deaf students among others (Kemp, Skrebneva, & Kruger, 2011, pp. 25-29).

Given the variation of a viewpoint on the inclusion of Deaf students, teacher practices and classroom management have been diverse respective to an implementing country. For example, inclusive education in Tanzania is conceptualized as "…an approach which transforms the education system, including its structure, policies, practices and human resources to accommodate all learners in mainstream education by addressing and responding to learners' diverse needs" (URT 2018, p. 12). However, it is still evident that school practices are not as accommodative as it is pronounced in the policy. For example, research has consistently shown that Deaf students in Tanzania have been faced with several challenges like the negative attitude of teachers and parents (Tungaraza, 2014), isolation and stigmatization from their communities (Mbwilo, Smide, & Aarts, 2010, p. 9), and unsupportive teaching methods (Brons & Namirembe, 2018). Some of these challenges are policy-based while others are a result of personal or cultural attributes. On one hand, I may agree with Gudyanga, Wadesango, Hove, & Gudyanga, (2014) that may be inclusive education in Africa is rushed basing on the fact that established policies are not effected in respective schools.

Inclusive education practices in Africa have been in response to the national social, political, cultural, and economic status. As stated by Kemp, Skrebneva, & Kruger (2011), important steps on the implementation of inclusive education are generally about the mobilization of resources. This includes enabling schools to create learning environments that bring the support services to the learner, rather than moving the learner to the services (Kemp, Skrebneva, & Kruger, 2011, p. 21). Given its sensitivity in accomodating the learning needs of underprivileged students, the next section broadly explains the meaning of inclusive education and its implementation strategies in different countries.

4.4.1 Perspectives of Inclusive Education and its Implementation

It took centuries for Deaf people to break out of shackles of misunderstanding and struggles of identity formation (Irene & Jean, 2017, p. 1). And even today such misunderstanding continues in line with specific service provisions like education and health care. It is proposed that these misunderstandings are resulting from multiculturalism perspectives (Irene

& Jean, 2017, p. 2) or ignorance of what deafness is all about (Sacks, 2012, p. 4). It may not be easy to simply define 'deafness'. Sacks, (2012, p. 5) argues that the term "deaf" is vague as it contains degrees of deafness – from mild to profound. There are also Hard of Hearing – those with residual hearing who seek to avoid the pathological connotations of impairment, hence includes diverse cultural perspectives and audiological experiences (Swanwick, 2017, p. 11). Each of these categories has its complications and uniqueness, hence can not be generalized. Background to all these scenarios, this section capitalizes on the ongoing debate in Deaf education. Inclusive education for Deaf learners is affected by the debate on models of deafness. The scrutiny of literature has identified three models in the prevailing debate: social-cultural model, medical model, and bi-culturalism. Each of these models is discussed below:

i. Social-cultural Model

This model sees deafness as a social-cultural phenomenon rather than a disability. This model is attached to Deaf history and struggles for identity formation (Sacks, 2012, p. 30). This history is traced back to the 1800s during when schools utilized sign language as the vehicle for educating Deaf children (Irene & Jean, 2017, p. 2). During this time, this model advocated for the use of sign language as a linguistic human right for Deaf students, hence deafness is a trait and not a disability. Proponents of this model asserted that deafness is not a pathology and therefore does not to be fixed (Megan, 2002, p. 5). And this leads to the use of the uppercase 'D' for the identification of all Deaf people who agree with this model. This model recognizes linguistic and cultural aspects of being Deaf, hence Sign Language is their main communication mode.

ii. Medical Model

This contrasting model sees deafness from pathological eyes. It outgrew around the 1950s when more interests in audiological training were emphasized in response to the influx of World War II when most veterans lost their hearing abilities (Irene & Jean, 2017, p. 4). During this time, most research was directed to deafness as a pathological phenomenon hence a need for more treatment programmes. From this perspective, deafness is charged with other disabilities like blindness, motor impairments, and cognitive impairments (Megan, 2002, p. 3). In education provision, the model gives much hope in the rehabilitation of deafness as the

mechanism for students to respond to their environmental cues and communication. Hence, the effects of deafness are assumed to be lessened by the use of technology such as hearing aids, cochlear implants, and other listening assistive devices. And for identification of deafness, this model uses a lowercase ‘d’ for identifying deaf persons. However, the use of lowercase ‘d’ may not be a general rule or universal case for audiological identification of deafness, rather it is used sometimes under preferential bases. In the United Kingdom, deafness with lowercase ‘d’ is used to include any level of hearing loss significant enough to impact language development (Swanwick, 2017, p. 11). And this does not necessarily impact audiological perspectives the most scholars argue.

iii. Bi-Culturalism

This model emanates from the postmodernist view that “there is no qualitative difference between disabled and non-disabled people because we are impaired in some ways, some more than others (McIlroy & Storbeck, 2011, p. 495). This view is more humanistic and real because it sees the value of human beings in whatever status one might be. The postmodernist view underscores diverse ways to communicate – there are no best ways to communicate. Proponents of this model see identity formation as a fluidity mechanism that is attached to Deaf people fitting in every environment, hence opting for in-betweenity. This model evolves to refer to Deaf and hearing persons who use sign and spoken/written languages (Swanwick, 2017, p. 13). This option implicates acknowledging the strengths of both paradigms discussed earlier. And for identification, the model uses an annotation ‘DeaF’ with capital ‘D’ and ‘F’ (McIlroy & Storbeck, 2011, p. 508).

In general, debates of identity were fascinated by extraordinary issues and problems during the times. Sacks, (2012, p. 22) highlights several cases that stimulated these debates at different times. For example, there were cases of Deaf education and liberation, intolerance of minority, and other of the alike that stimulated movements of identity. Sometimes among Deaf persons, identity development is affected by politics of identity and therefore may have no definite viewpoint. The prevalence of the above models does not overrule the preference of who one wants to become. Sometimes, there those who what to speak – and they do not want to sign. In a long run, these models impact debates of how each can be accommodated in the education provisions – basing on the fact that each model has a specific view of inclusive education, hence impacting its implementation.

Historically, inclusive education had its beginning in 1994 from the launch of the Salamanca Statement on the need for the equalization of opportunities to all groups of people (UNESCO, 1994). This statement was signed by 92 countries including Tanzania. The statement was then enforced by several articulations at global and regional levels, and one of such statements is the decree of the United Nations Conventions for the Rights of Persons with Disabilities (thereafter CRPD) which came into effect in 2008. CRPD aimed to define and protect rights that persons with disabilities are entitled to – one of which includes rights to education that were advocated in the Salamanca statement.

The Salamanca Summit aimed to ratify policies for inclusive education to all children regardless of their gender, ethnicity, and disabilities (UNESCO, 1994, p. 11) to enable all children to enjoy dignity and exercise of human rights. The Salamanca statement succinctly puts:

> The fundamental principle of inclusive education is that all children should learn together, wherever possible, regardless of any difficulties or differences they have. Inclusive schools must recognize and respond to the diverse needs of their students, accommodating both different styles and rates of learning and ensuring equal education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use, and partnership with their communities (pp. 11-12).

This statement necessitated the preparation, development, and implementation of inclusive education in countries upon assessment and accommodation of students' learning needs. Since the inception of the Salamanca statement in 1994, many countries in the world started implementing inclusive education as a shift from special education, and such implementation has often relied on the re-definition of 'inclusive education' in local settings (Stegemann & Jawic, 2018, p. 5). Behind the fundamental focus of providing education for all students including students with disabilities (Adoyo, 2007, p. 5), one of the core ideas evolving inclusive education is promoting acceptance of those with disabilities in the society (Boer, Timmerman, Pijl, & Minaert, 2012, p. 573). Boer et. al. established that "although more acceptance and friendship for students with disabilities in regular schools are a widely supported aim, implementing inclusion in daily practice is challenging" (p. 574).

The argument that "implementation of inclusive education is challenging" has been widely supported by the existing literature. Research has found that the implementation of inclusive

education has encountered several challenges including the scarcity of teacher skills to handle diverse learning, exclusive school curriculum (Dalton, McKenzie, & Kahonde, 2012), unattended students' learning needs (Stegemann & Jawic, 2018, p. 5) and the exclusive national culture (Chimedza, 2008) to mention but a few. To this end, the current research has similarly found misconceptions and inconstancies in the implementation of inclusive education across secondary schools in Tanzania. Three modalities of inclusion of Deaf students display a continued debate for what it is to be Deaf and its implication on education provision.

i. **Full inclusion:** Deaf students integrate with hearing students in all settings: they study together in one class in all subjects, share dormitories, work together and participate in sports and games;
ii. **Partial inclusion:** Deaf students study alone in five selected subjects and for the rest of the subjects, they study with hearing students. In five subjects, Deaf students are taught by specialist teachers in separate units. In extra-curricular activities, Deaf students integrate with hearing students;
iii. **Full specialization:** Deaf students are placed in one school. In this situation, the category of Deaf students is not an issue. So, the school consists of Deaf students with low vision, prelingually Deaf students, post-lingually Deaf, profoundly Deaf, hard of hearing and Deaf students with physical disabilities.

The three approaches to inclusive education for Deaf learners do not only showcase the continued inconsistency on the implementation of inclusive education in Tanzania but also depict the challenge involving the implementation of inclusive education for Deaf learners. On the other hand, the approaches are closely attached to preceding debates on what deafness entails, and this makes a quest to explore various aspects through which nationals respond to Deaf education.

4.4.2 Deaf Education in Sub-Saharan Africa

The history and development of Deaf education in Sub-Saharan Africa[9] (henceforth SSA) are closely related to missionary activities in African countries (Fullerton, 2013). Historically,

[9]These are countries found south of the Sahara Desert. These include Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo (Brazzaville), Congo (DRC), Comoros, Djibouti, Eritrea, Ethiopia, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea Bissau, Ivory Coast, Kenya, Lesotho, Madagascar,

efforts to teach Deaf students in SSA have been put in place since 1863 when the first school for the Deaf was opened in Cape Town, South Africa by Irish Dominican nuns. Hence, it was named Dominican Grimley Institute for the Deaf (Migeha, 2014, pp. 18-19). Missionaries' efforts of providing education to the Deaf were later extended to different parts of SSA. For example, in 1957, Andrew Foster – himself Deaf (1925-1987) established a school for the Deaf in Ghana, in 1958 a Deaf school was opened in Mombasa Kenya by Aga Khan (Adoyo, 2007, p. 1) and the Wesley School for the Deaf, Surulere, Nigeria by an association known as "Friend of the Deaf" (Eleweke, 2002, p. 75) and in 1963 the Catholic Church opened the first school for the Deaf in Tabora, Tanzania. Many more schools for the Deaf were also opened all over the continent. The underlying push for opening these schools was to enhance education opportunities for disadvantaged groups.

However, despite the missionaries' and governments' efforts to provide education to Deaf children, Drame & Kamphoff, (2014, p. 70) states that there is no satisfactory evidence that schools have welcomed the 'inclusion' of Deaf students in their systems. In this instance, for example, Musengi & Chireshe (2017, p. 116) mention that Deaf students in Zimbabwe are "socially included while academically excluded because of the language difference and limited access". However, even though most SSA countries are signatories of the World Declaration on Education For All (1990) and the Dakar Framework for Action (2000), much has not been done to enable all students to feel welcome regardless of their learning needs (Rugambwa & Thomas, 2013, p. 117). Like Zimbabwe and Tanzania, similar challenges have been experienced in South Africa (Dalton, McKenzie, & Kahonde, 2012; Engerbrecht, 2006), Kenya (Adoyo, 2007; Gathumbi, Ayot, Kimemia, & Ondigi, 2015), Senegal (Drame & Kamphoff, 2014), Ethiopia (Hussein, 2008) and Botswana (Abosi, 2007). These examples from the SSA countries provided a baseline for exploring the learning experiences of Deaf students in inclusive secondary education in the light of how education curricula have been adapted to respond to the learning of Deaf students as is explained in the next section.

4.4.3 Inclusive School Curriculum Adaptation

Another subtheme related to inclusion in the 'curriculum adaptation' which was reflected in 6 articles (Armstrong, 2009; Brice & Straus, 2016; Gathumbi, Ayot, Kimemia, & Ondigi, 2015;

Malawi, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leon, Somalia, South Africa, South Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

Drame & Kamphoff, 2014; Tungaraza, 2014; Rugambwa & Mathew, 2013). According to these articles, inclusion implies that the regular classroom should change to accommodate all different learners, and in the process, desirable services are offered to all children within the regular classroom (Adoyo, 2007; Brice & Straus, 2016; Chimedza, 2008; Gathumbi, Ayot, Kimemia, & Ondigi, 2015). This change includes amongst others bringing the support services to the learner, rather than moving the learner to the services (Kemp, Skrebneva, & Kruger, 2011, p. 21). Some of the support services that need to be brought to Deaf students include visual attentions typical to an understanding that Deaf students are visual learners. Adapting the curriculum to suit the learning needs of Deaf students is based on the fact that "teaching of Deaf learners is not – or should not – be the same as teaching hearing learners due to the reasons that having hearing loss can seriously impede communication" (Marschark & Knoors, 2014, p. 24). Since most of our communication is in spoken form, a Deaf whose main communication form is visual is largely affected in different areas including emotional, interactional, and cognitive.

Nevertheless, the adoption of inclusive education in most Sub-Saharan African countries has hardly adjusted the national education curriculum to respond to the learning needs of Deaf students. In Tanzania, for example, literature has shown that Deaf students face challenges in coping with the school curriculum (Rugambwa & Mathew, 2013, p. 119; Tungaraza, 2014) and this is following the fact that the current education curriculum is seen to be skewed to benefit hearing students. Similar cases are reported in Kenya where graduates continue to lag behind their hearing counterparts (Adoyo, 2007, p. 2) following the fact that administrators' support on the use of learner specific instruction to accommodate learning styles of students supports the use of learner specific instruction to accommodate learning styles of students has been quite inadequate (Gathumbi, Ayot, Kimemia, & Ondigi, 2015, p. 136). More research has reported on the same case in different parts of the world including America. In their study, Brice & Straus have shown that at least one-third of Deaf students in mainstream schools have felt excluded in the school curriculum (Brice & Straus, 2016, p. 73). They noted that the main reason for such experiences of exclusion was due to language diversity between the hearing and Deaf students. They also pointed out that such an exclusion was attributed to the fact that not all Deaf students can benefit from exposure to spoken languages (Brice & Straus, 2016, p. 68).

The importance of curriculum adaptation has been very apparent in some nationals that consciously implemented inclusive education. From Jordan, for example, Boyle, Topping, & Jindal-Snape (2013, p. 529) indicate that the successful implementation of inclusive education goes along with a willingness to compromise and accept that the curriculum involves various levels of interactions. They further argue that "the success or plans that involve major change tend to be dependent upon the workers who are most involved in the implementation of the change process" (Boyle, Topping, & Jindal-Snape, 2013, p. 259). It can be hypothesized that not only accepting individual differences is a powerful start point to change and admit that every individual is a complement of the other, but also how implementing members are put in the inner circle of curriculum development. Involving teachers in the process of curriculum adaption makes them feel valued and hence take the role of implementing it smoothly. Despite that their study showed that the success of implementing inclusive education in Jordan was attributed to the positive attitude among teachers, yet the level of motivation was affected by several factors including age, gender, support role, duration in the work, and authority (Boyle, Topping, & Jindal-Snape, 2013, p. 538).

From this point, inclusive education does not necessarily depend on policy formulation or ICT development rather it requires a deliberate change of human mindset, curriculum, and devotion to the provisions of necessary environment that will accommodate all learners regardless of their physiological or learning pitfalls. This is supported by Boyle, Topping, & Jindal-Snape (2013, p. 528) that "inclusion and inclusive education are concerned with the quest for equity, social justice, participation, and the removal of all forms of exclusionary assumptions and practices".

4.4.4 Student's Learning Engagement and Cooperation

Another subtheme that arose from the literature related to inclusion was the learning engagement of Deaf students and cooperation among hearing and Deaf students. This subtheme was reflected in seven publications (Bucholz & Sheffler, 2009; Gade, 2010; Kozar, 2010; Abdullah, Bakar, & Mahbob, 2012; Bado & Franklin, 2014). Students' cooperation is seen in the light of fostering active learning among students (Johnson & Jonson, 2008, p. 29). This is on the fact that when students collaborate in learning, they create new insight during the discussion (Kozar, 2010, p. 17). Collaboration in this study takes two views; firstly is the extent to which teachers and Deaf students engage during classroom teaching, but the second

view is the extent to which hearing students collaborate with Deaf students during discussions and extra-curricular activities. The first view considers classroom environments that are essentially built for the formal learning process to take place (Abdullah, Bakar, & Mahbob, 2012, p. 1).

Hence face-to-face interaction between teachers and Deaf students is essential for fostering Deaf students' participation in the learning process. The other way around, it appears that when teacher-students interaction is limited, Deaf students' engagement is lowered hence affecting the whole learning process. This is supported by research that students engagement not only helps students to absorb, seek and apply the skill and knowledge that emanate from the engagement with teachers, hence creating a conducive learning environment (Abdullah, Bakar, & Mahbob, 2012, p. 1) but also grasping cultural resources like communication styles and individual ways of learning (Gade, 2010, p. 50).

In the second view, the cooperation and interaction among students establish an avenue for not only interpreting values and meaning of student's experience but also to create a community in which multiple ways of learning take place (Takaya, 2008, p. 2). This view builds a need to see a school as an asset in which diverse cultural values are shared and learned and which in turn, creates a community with shared cultural resources or artifacts, tools, signs, language, and gestures (Gade, 2010, p. 49). Therefore on sharing cultural resources, students can learn their preferred communication styles which are essential for meaning-making and interaction, hence upholds students' learning engagement and collaboration (Gade, 2010, p. 51) which are imperative for not only creating an inclusive school community but also achieving the positive students' learning outcome which is further discussed in the next section.

4.4.5 Student's Learning Outcome

Another subtheme related to inclusion was student' learning outcome and it was reflected in five articles (Farooq, Chaudhry, Shafiq, & Berhanu, 2011; Korir & Kipkemboi, 2014; Jalbani, 2014; Helou & Abrahim, 2014; Bahri & Corebima, 2015). Learning outcome has attracted debates among scholars and it associated to be a result of many factors which may include teachers' qualification, school size (Jalbani, 2014, p. 2), learning motivation (Bahri & Corebima, 2015, p. 487), the social-economic status of students, and the type of school they attend (Korir & Kipkemboi, 2014, p. 1). These factors are both in-school and off-school and can further stem two branches; personal traits of the student and the school environment.

Farooq, Chaudhry, Shafiq, & Berhanu (2011, p. 3) argue that school environments can play a big role in motivating students to interact with peers and learn. School factors like school structure, school composition and school climate (Korir & Kipkemboi, 2014, p. 1) contribute greatly to students learning experiences and achievement. This is consistent with the major contribution of Farooq, Chaudhry, Shafiq, & Berhanu, (2011) that the quality of students' academic performance is affected by their social-economic status along with other factors like home environment, parents' education level, school authorities to mention but a few of them. These factors have a powerful influence on students' involvement in academic activities (Farooq, Chaudhry, Shafiq, & Berhanu, 2011, p. 4). In assessing the factors for academic performance, Korir & Kipkemboi, (2014, p. 1) supported the role of school-based factors like school structure, school composition, and school climate in influencing students' learning endervour. The previous factors are significant in creating a well-set institutional environment that determines the learning limits of students.

Research has further insisted that students' academic progress is closely related to the school environment in which a student can be able to relate with others and seek help from them (Jalbani, 2014, p. 2). This is in line with the ability of teachers to communicate and interact with students through which both teacher and students can receive feedback from the other. This further results in raising students' motivation to engage in the learning process (Bahri & Corebima, 2015, p. 487) Hence, the higher the student's involvement in learning the higher the level of academic achievement (Korir & Kipkemboi, 2014, p. 8).

Generally, socio-economic status of students, home based-factors, parents' level of education (Farooq, Chaudhry, Shafiq, & Berhanu, 2011), school structure, school composition and school climate (Korir & Kipkemboi, 2014), and learning motivation among students (Bahri & Corebima, 2015) have been considered to be fundamental factors for promoting students' learning outcomes. However, the aforementioned studies failed to address the role of communication as an interactional tool for meta-cognitive skills' development among students and teachers on one hand, and a tool for cultural transmission on the other. For example, learning motivation among students grows in situations where students can develop mega-cognitive skills and heuristics. In this regard, the ability of students to know the beliefs and desires of the peers streamlines the development of interaction among them hence each student feels welcomed and safe. It is on this background this research hypothesizes that

students' learning outcome is both a process and result of networking and interaction of several factors which in total, makes a school's culture.

4.5 Conclusion

In summing up, this chapter has reviewed literature related to inclusive education in respect of how Deaf students can engage and collaborate with their peers in the learning process. Among other things, a systematic and narrative review of literature has found that school culture is an important aspect in the implementation of inclusive education, along with forming a community of learners, and which in turn affects the learning turnouts. Deaf students' academic progress in inclusive schools is attributed to variant challenges (Adoyo, 2007; Alfred & Bendich, 2012; Boyle, Topping, & Jindal-Snape, 2013; Drame & Kamphoff, 2014; Ayantoye & Luckner, 2016). Some of the challenges include classroom unsupportive teaching practices, language and communication behaviours, unresponsive school environments to mention a few of them. However, despite the existing challenges, research has continually identified the causes and effects of inclusive education on Deaf students. This is in line with un uniformity on how inclusive education is defined and implemented across the world. Background to inclusive education in Tanzania, a systematic literature review has revealed that there is hardly any study that has been conducted to either explore or evaluate the implementation of inclusive education since its inception in 2010. On the other hand, the systematic literature review has evidenced the inadequacy of the published history of Deaf education in Tanzania following the fact that the field has been inadequately researched since its inception in 1963. As a result of this, there has been inadequate documentation on the progress of Deaf students in Tanzania, which is a call for more research in Deaf education to unveil the learning status of Deaf students in the country. However, school culture which forms the ground of this research has been under-researched. A literature review has shown that most scholars and educational researchers have looked at inclusive education as a separate phenomenon in education and a result of which most of them ended outlining challenges facing the same in schools. School culture, which a frame for school operations, has not been a case for study in Africa. This research looks at school culture as a vital phenomenon for school functions. Hence, the exploration of inclusive education lies in how school cultures respond to diversity.

Chapter Five

Research Methodology

5.1 Introduction

Exploring the inclusion of Deaf students was backed up by the employment of qualitative approaches that were delimited by phenomenology design. The choice of qualitative methods was influenced by two things; the first exploration of school culture – making this research more behavioural, and second the paradigmatic view of the existent of dozen ways for conducting qualitative research ranging from well-established traditions such as ethnography, grounded theory, phenomenology, case study, and content analysis to more progressive genres of qualitative research, such as poetic inquiry, narrative inquiry, ethnodrama, autoethnography, and duoethnography (Miles, Huberman, & Saldara, 2014, p. 8). With this background, the search of the status of inclusive education in line with how it makes sense of the lives experiences of Deaf students provoked the engagement of qualitative inquiries, including the choice of a design apt for uncovering the lived experiences of Deaf students in an inclusive school. The rest of this chapter explains how the choice of this design impacted the whole research methodology. Along with the design, this chapter introduced the reader to data collection tools and procedures that were employed in this research. It describes the choice of the study area and research participants in line with the objectives of this research as highlighted in Chapter One. Furthermore, this chapter captures data collection procedures and is explained in compliance with the nature of the data expected. Each research instrument is elaborated in line with how it was administered in the field. In the last sections, data analysis and ethical procedures are introduced.

5.2 Research Design

This research was conducted to explore the first phase of implementation of inclusive Deaf education in Tanzania. And so, school culture, which forms the theoretical framework of this study, was an important phenomenon of the study. In its attempt to explore how the implementation of the first phase of inclusive education has influenced the academic progress of Deaf students, this research employed a qualitative approach. In view of this, the study adopted a phenomenology research design whose objective is not only to explicate the meaning, structure, and essence of the lived experience of a person or a group of people

around the specific phenomenon[10] (Simon & Goes, 2011, p. 1) but also to provide a deep understanding of a phenomenon as experienced by several individuals (Creswell, 2007, p. 62). The choice of phenomenology in this research was also supported by Akar (2020, p. 61) who employed phenomenology design to study the inclusion practices regarding teaching gifted learners in regular classes in line with factors that trigger the development of such learning practices. According to him, the inclusion of students with special needs can well be studied when one focuses on specific phenomena like classroom waiting tendencies, academic achievements, and available support services (Akar, 2020). Therefore, this research associates a phenomenon with teachers' and students' practices, school beliefs, and values because they are reflected better in lived experiences of a person.

5.3 Delimitation

Exploration of the status of inclusive education for Deaf students involved three types of secondary schools with Deaf students in Tanzania. These were: 1) a non-technical school for Deaf students, 2) a non-technical inclusive school, and 3) a technical inclusive school. Each of these schools has specific structures for inclusion in the sample as will be explained later. The aim of choosing three different schools was to ensure the study had a wide range of school experiences to explore along with the potential different understanding of culture between schools.

Types of school	**Level**	**Participants' categories**	**Total**
Non-technical Inclusive School (Y)	Form 3 and 4	a) DS b) HS c) HM d) Ts	20 4 1 4 *N=29*
Technical Inclusive School (X)	Form 3 and 4	a) DS b) HS c) HM d) Ts	5 4 1 2 *N=12*
The non-technical School for Deaf (Z)	Form 3 and 4	a) DS b) HM c) Ts	39 1 4 *N=44*
Total			**85**

Table 8: Summary of research participants

[10] Sefotho (2015, p. 29) considers 'phenomenon' as an essence that can be understood through a definite structure and which is sub-rosa.

I reiterate that apart from all schools being co-educational, each of these schools has a unique underlined inclusion experience. And despite that much of this information is analysed in Chapters 6 and 7, this section will give a brief account of each school.

School X displays a quest for adjusting its language policies and support structures to suit the needs of Deaf students. It entails aspects of full inclusion in the manner that hearing students and teachers are exposed to interacting with Deaf students at all settings without the use of sign language interpretation services. This approach forces hearing students to pattern and interact with Deaf students in a very natural way. In a classroom situation, all students share a class, and teachers are teaching Deaf and hearing students in a single class.

A slight difference is observed at school Y where Deaf students are studying separately in their classes and they only interact with their hearing peers after classes. This situation does not bear in mind that Deaf students cannot learn in similar ways as hearing students. All school structures remain regular. However, with school Z, a school takes an approach of a special school for Deaf students and Deaf students with an additional disability. Apart from enrolling Deaf students, school policies, curriculum, and school structures are regular. School Z brings another frustrating account for deaf education in the country. These three different accounts of these sample schools explicate conflicting cultural orientations for each. Therefore, this research considered sampled participants in categories of Deaf students (DS), hearing students (HS), teachers (Ts), and heads of schools (HM), and Deaf graduates who totalled 85 participants (see Table 8).

In total, twelve teachers from three schools in Tanzania were involved in the study during classroom observations and interviews. Below is a profile of each teacher individually. For anonymity, pseudo names have been used for their identification.

i. Teacher Pe

Teacher Pe was an experienced teacher with 21 years of teaching at school X. He is 48 years old and possesses a bachelor's degree in education. He had a leadership position at the school. He was newly involved with Deaf students, with three years of experience in school X. He is a beginner in Tanzanian Sign Language (TSL).

ii. Teacher Ki

Teacher Ki had 7 years of experience of which he had spent 3 years teaching at school X. He is 33 years old and possesses a bachelor's degree in education. He teaches one subject twice a week in form four. He can communicate fluently in TSL.

iii. Teacher Li

Teacher Li had six years of teaching experience at school X. She is 32 years old and had a bachelor's degree in Special Needs Education (hearing impairment). Teacher Li taught one subject daily in one class. She was not fluent in TSL and she used mostly a mix of spoken languages and signs to communicate with Deaf students.

iv. Teacher Lu

Teacher Lu was an experienced teacher of 10 years teaching at school Y, though in total he had 26 years of teaching experience. He was 53 years old and possessed a diploma in special education (hearing impairment). He taught one subject daily in one class. He was fluent in TSL.

v. Teacher Ra

Teacher Ra was an experienced teacher of 19 years. He held a university degree in education and had been in regular schools as a classroom teacher before he was transferred to school Y in the last 2 years. He did not know sign language; hence, he often used spoken language(s) in all his communication in school.

vi. Teacher Wi

Teacher Wi was 59 years old and possessed a university degree in special education (hearing impairment). She previously had a diploma in special education and had been involved in teaching Deaf students for 25 years. She taught one subject daily in one class at school Y. She could communicate in TSL despite not being fluent in sign language.

vii. Teacher Ti

Teacher Ti was 54 years old and owned a master's degree in special education (general). He was experienced in teaching Deaf students for 12 years. He taught one subject once a week at school Y. He could communicate in spoken and signed languages.

viii. Teacher Je

Teacher Je was 31 years old and owned a university degree in special education (general). He taught one subject to Form Three classes at school Y. His teaching experience was 5 years but was not fluent in TSL. He used spoken language(s) as the main communication modality in class.

ix. Teacher Ish

Teacher Ish had other degrees outside the education field. He did not have experience in teaching Deaf students, rather he took administrative roles at school Z. He was not fluent in TSL and he partly served as a teacher.

x. Teacher Lui

Teacher Lui was 33 years old and owned a diploma in special education (hearing impairment). She was Deaf but could speak. She became Deaf when she was 9 years old due to illness. She taught one subject at least five days a week in Form Three at school Z. She was bilingual; hence, could easily navigate between sign and spoken languages depending on the context of communication. Her experience of teaching was 9 years and she had never been involved in regular education as a teacher.

xi. Teacher Ma

Teacher Ma was 34 years old and owned a master's degree in special needs education. He had a total of 10 years of teaching experience but had been teaching Deaf students for 7 years. He was bilingual and could communicate well in spoken and TSL. He taught one subject once a week at school Z but sometimes he assumed the role of sign language interpretation.

xii. Teacher My

Teacher My was 49 years old and held a diploma in education but had attended short courses of teaching Deaf students. He taught one subject daily in Form Three and Four. He could communicate with Deaf students in rare cases but mostly he used spoken language. His teaching experience was 20 years including 6 years of teaching Deaf students.

Along with these teachers, 64 Deaf students were involved in the study. As shown in Table 9 below, these Deaf students contained diverse status of hearing levels and language abilities.

Class	With residual hearing	No hearing at all	Total	Prelingual	Post lingual	Total
Form III	27	18	45	8	37	45
Form IV	6	13	19	3	16	19
% (N)	51.6 (N=33)	38.4 (N=31)	100	17.2 (N=11)	82.8 (N=53)	100

Table 9: Profile of Deaf students

However, four graduated Deaf students were included in the study depending on their availability. However, they provided the researchers with important information regarding inclusive education and the academic endeavours of the Deaf student.

i. Graduated student 1

She was 32 years old and possessed a master's degree in special education (hearing impairment). She was Deaf and had acquired her Deafness at 9 years old. She passed her National Examinations with division III. She could communicate in spoken and signed language.

ii. Graduated student 2

She was 30 years old and by then had a master's degree in special education. She became Deaf at the age of 12 due to illness when she was in grade four. She passed her Final National Examinations with division III.

iii. Graduated student 3

She was 25 years old and had just finished her Form Four in 2018. She became Deaf when she was 10 years old due to medication. She passed her Form Four National Examinations with division IV.

iv. Graduated student 4

She was 26 years old, and she finished Form Four in 2018. She became Deaf when she was 9 years due to medication. She failed her education with a score of division 0.

5.4 Data Collection

The need to study the implementation of inclusive education in Tanzania was influenced by the fact that Deaf students are not only ordinary students but rather have their differentiated communication style that deviate them from their hearing peers. These communication styles include their diverse choices like the use of sign language, lip-reading, cued speech, and speaking, to mention a few of them. With this background, the need to study the cultures of inclusive schools was paramount. The school culture is viewed in support systems provided to Deaf learners to enable them to participate in the learning process equally as hearing ones.

As is explained earlier, this research employed a phenomenology design to understand the learning experience of Deaf students in an inclusive school community along with assessing various support services that would deem important for accomodating them. In respect of this view, in the following sections, I have described how different data collection tools were involved in the current study.

5.4.1 Development and Validation of Research Instruments

Validity means the ability of instruments to measure what it is intended to measure (Taherdoost, 2016, p. 29). So to say validity is the measure for the relevance of an instrument in line with what is expected to be measured. The development and validation of research tools have many facets (Otilia & Lucia, 2013, p. 273). Because this instrumentation involved cross-cultural administration – Deaf culture and hearing culture, Kiswahili and Tanzanian Sign Language were all used in the instrumentation process. Kiswahili has been chosen because it is the national language and the mother tongue for most young students while the use of Tanzanian Sign Language was opted because it is the language of Deaf students. Tanzanian Sign Language scripts were thereafter exposed to translation (Otilia & Lucia, 2013, p. 277). And so, the following steps were used to determine the validity and reliability of research instrumentation:

i. Determining the purpose, objectives, and theoretical framework of the research

This first step involved formulating the scope of the study. This was followed by developing research objectives and what instruments need to measure. Each objective was assessed in the light of determining the themes of each objective. However, at this stage, target groups were identified. And so Deaf and hearing participants were sorted. The last step was to formulate the theoretical framework of the study – which was school culture. Identification of this framework helped me to decide what time of data is needed and so what type of instrumentation for that particular data.

ii. Review of literature to identify tools

This was an important stage of studying existing literature that employed a similar theoretical framework or research design to decide the type of instrumentation pertinent for this study. For the judgement approach, the literature review is most recommended for identification and choice of instrumentation (Taherdoost, 2016, p. 30). Therefore, a review of the literature was of benefit because it helped me to identify similar items in line with my area of study to test the validity and reliability of the instruments that were selected.

iii. Generating the first draft of instruments

After the upper two steps, the first draft of the research instruments was designed. Under the monitoring of the research supervisor, formats of instrumentation, formats, and support materials for engagement of Deaf research participants were identified. Similarly, administration methods were discussed and proposed for the first draft production.

iv. Content validation to produce the second draft

Content validity refers to the degree to which items in an instrument reflect the content universe to which the instrument will be generalized (Taherdoost, 2016, p. 30). It is recommended that for a new study it is rather very important to conduct content testing of the instrumentation (Otilia & Lucia, 2013; Taherdoost, 2016). At this stage, first draft instruments were validated in light of whether their contents match with themes of research objectives and theoretical framework. A review of the content involved experts in the field of Deaf education and engagement of Deaf research participants. After a review and some adjustments of the content, the second draft of the instruments was produced.

v. Pilot testing to produce the third draft

This phase involved testing of research instruments to a small group of Deaf participants and experts. The aim was to test the validity and reliability of such instrumentation. After the pilot study, findings were assessed in light of the ability of research instruments to collect valid and reliable data. Amendments were done on instruments to reduce all possible errors that would impinge and adversely affect the collection of intended data.

vi. Content and face validation for the fourth draft

With face validation, assessment of instrumentation was done to determine such tools are linguistically and analytically error-free in the sense that they looked like what they are supposed to measure. Instruments were then taken to Deaf experts to evaluate questions that will later be asked to participants. Issues of language and sentence structures arose in line with how Deaf participants can understand and respond accordingly. This led to further adjustments to ensure that adequate data is collected from the field. And after this stage, the final stage of production of the final draft was reached.

vii. Final draft

After all the above procedures, the final draft of research instrumentation was produced and administered in the field for data collection. The administration of each instrument followed specific procedures as they are explained in respective tools in the next section.

5.4.2 Instrumentation

This terminology is used to refer to a process of constructing and administrating research tools. The term has been associated with the researcher's creativity to administer research tools in the field to arrive at the desired end. For an exploration of the status of inclusive education for Deaf students in Tanzania, interviews, observation, focus group discussion, and documentary analysis were designed and administered as it is explained here below.

5.4.2.1 In-depth Interview

Along with an understanding of interviews as the most commonly employed instrument in qualitative research because of its flexibility in the field (Bryman, 2012, p. 469), this research employed an in-depth interview with teachers, hearing students, and Deaf students to understand their lived experiences in inclusive environments. The following procedures were followed for every group of participants:

i. Invitation to the research

This was the first stage after attaining permits to conduct research. At this stage, the respondent was invited to be part of the research and it was voluntary. And this cut across all participants.

ii. Introducing the candidate to the research content

After the approval of the respondent to be part of the research, s/he was introduced to the study. All relevant information pertaining to the aim and objectives of the study was shared in order to enable the respondent to judge him or herself on his or her readiness to participate in research. For example, all the information pertaining to 'what the study is all about, why on Deaf culture, objectives, and the significance of this study was made clear. Candidates were also informed that there was no harm for them to participate or withdraw from the study, and they were also assured of confidentiality and anonymity of their identity. Generally, all relevant information was shared at this stage to prepare candidates to consent to being part of the research (*see information forms on the appendices*).

iii. Informed consent

To consent means the candidate willingly agrees to participate in research. Therefore, one needs to sign in the consent forms if s/he agrees to take part in the research. So, consent forms were prepared and signed by all candidates as a sign that they agree to be part of this study (*see consent forms on the appendices*).

iv. Interview session

Four different sessions emerged with an interview: hearing teachers; Deaf teachers; hearing students; deaf students. Each of these groups was interviewed separately. With all participants, the sessions took between 50 minutes and 1 hour – depending on the expressive ability of the respondent. As I said earlier, with hearing teachers and students, the language employed was Kiswahili whereas with Deaf participants Tanzanian Sign Language was used. Some post-lingual students chose to use both modalities – speaking and signing. For the communication facility, a Sign Language Interpreter was hired as a conduit of communication between the researcher and Deaf participants.

v. Wrapping up session

After a session, a wrapping-up session followed. In this session, the researcher appreciated each contribution of the participants and promised to honour confidentiality and anonymity as consented.

The choice of an in-depth interview with some respondents of the three groups above corresponded with Windsong (2018, p. 140) who spotted that in-depth interviews provide participants with the opportunity to share their lived experiences regarding a certain circumstance in which they are involved. The choice of in-depth interviews was also geared to acquire exhaustive and holistic descriptions regarding the implementation of inclusive education in respective schools and respondents' experience with Deaf and hearing persons.

It was important as well to allow participants to reflect on their feelings and lived experiences with peers. So, an interview guide with open-ended questions (see appendices 14-16) was designed to allow participants to answer in a manner that makes sense to them (Bryman, 2012; Maxwell, 2013; Windsong, 2018). Therefore, interview sessions lasted for 1 hour. The information given by respondents was recorded for further analysis. Despite that many ethical issues are explained in Section 5.6, it is important to emphasize that specific ethical protocols for in-depth interviews were considered. To ensure confidentiality, the researcher did not ask anything that would lead to the disclosure of the respondents' identities. Furthermore, the researcher asked for respondents' consent to participate in the interview and a respondent was advised to participate in or withdraw from the session and/or agree or disagree to answer the questions directed to her/him.

5.4.2.2 Participant Observation

The qualitative analysis takes diverse forms one of which includes participant observation. The researcher used participant observation in all three schools in order to collect authentic data from daily lives – their interactional behaviours and the quality of communication between hearing and Deaf peers (Vos, Srydom, & Delport, 2014). Participant observation – as the tool for qualitative inquiry – was used to enable the researcher to observe and take notice of teachers' and students' interactional practices during classroom lessons and within the school premises. As emphasized by Bryman (2012, p. 432), participant observation forms the centrality of the qualitative inquiry. He asserts that participant observation draws

attention to the fact that the participant-observer immerses himself or herself in the group for a while – observing behaviours and natural practices as well as listening to conversations (Vos, Srydom, & Delport, 2014).

This method was adopted to enable the researcher to collect first-hand data from the field by making the direct observation of classroom interactional behaviours during the learning process and other practices within the schools' premises (Vos, Srydom, & Delport, 2014). The researcher, therefore, entered into the classrooms during the lessons and observed the natural environment in which teachers taught. During the observation, I recorded every participant's behaviours that were observed. Some of these behaviours include the language of communication and instruction, the moments of interaction and silence, isolative tendencies, discharging of responsibilities and many others.

Observation of these cues typically complements what Graziano & Raulin, (2000), as cited in Vos, Srydom, & Delport, (2014), notes as the importance of natural classroom observation in a research undertaking. Since the researcher's presence in classes and around the schools would affect teachers' and students' original behaviours, Bryman (2012, p. 273) proposes a prolonged stay in a social setting to not only observe the behaviour of members of that setting but also elicit the meanings they attribute to their environment and behaviour.

Observations in the field were done for three weeks whilst using an extended time of up to 80 minutes in the class(es) depending on the time of a class period. The extension of time was meant to broaden the possibility of capturing the actual teachers' and students' classroom interactional behaviours. Thus, in the Special school for the Deaf, classroom observation took between 40 and 80 minutes, depending on the lesson duration. Following the fact that this study was conducted to determine the provision of Deaf education in respective school environments, observations were also extended to outside the classes in order to gain a more holistic understanding of the experience (see appendix 18).

5.4.2.3 Focus Group Discussion

The choice of the focus group discussion as a tool for qualitative data collection was attributed to two reasons. Firstly, in order to raise a discussion regarding the lived experience of participants in the school, and secondly to have a wide chance of understanding participants' understanding of the inclusion. Lúcio (2015, p. 171) points out that focus

discussion helps the researcher to examine participants' perspectives in a social network. This background was essential to consider during examining participants on their views regarding the implementation of inclusive education. The choice of this research tool agrees with Gray (2004, p. 217) who mentioned that focus group discussion allows a group of respondents to discuss a topic or a known situation in which they have been involved. This argument is supported by Lúcio (2015, p. 171) who recommends the use of focus group discussion as an ideal tool for exploring people's experiences, opinions, wishes and concerns. For effective focus group discussion, the procedure went through the following steps:

i. Starting a discussion with an ice-break

After signing the consent form, the first step that preceded the discussion was to introduce all the participants to familiarize each other in the discussion. This was done along with creating positive relationships among all the participants. The right choice of simple, clear, and positive language was done carefully. Jokes were part of icebreakers and they were used to make all participants relaxed and comfortable.

ii. Introducing the main topic

The second step was to introduce participants to the main research topic and research question. This was done so as to prepare participants for the discussion. Specific research questions and the aim of the study were introduced and clarified to familiarize participants with the research problem.

iii. Asking specific question

At this stage, the researcher posed specific questions one after the other (*see the appendices*). Participants were given an adequate space to contribute to the question posed and the discussion took up to 20 minutes before another question was posed. Three types of questions were involved; probe questions, follow-up questions, and exit questions.

iv. Closing the session

This was the last session of the focus discussion and it was wrapping up everything that we discussed. It was along with appreciating the contributions from every participant and asked

if there were some questions from respondents that required answers from the researcher. After addressing everything from respondents, the session was closed.

In this research, participants' experience, and opinions in respect to inclusion were examined in natural interaction. According to other scholars, interaction is the reaction raised on participant's contributions (Bryman, 2012, p. 501; Bradbury-Jones, Sambrook, & Irvine, 2008, p. 663), and it allows the researcher to develop an understanding of 'why people feel the way they do (Bryman, 2012, p. 503). So, each focus group constituted of four to seven Deaf participants who were involved in discussing topics that were divided into different items (see Appendix 19). Each focus group discussion was video recorded for capturing visual language. Video recording sign language is regarded to be a powerful means of reflecting on communication aspects that have been used during the interaction (Gale & Kung, 2019). Since this study involved Deaf participants, it was rather important to video record interaction and communication possibilities in which the Deaf was involved.

5.4.2.4 Secondary Document Analysis

The secondary document analysis involves the study of existing documents, either to understand their substantive content or to illustrate deeper meanings that may be revealed by their style and coverage (Vos, Srydom, & Delport, 2014). Usually, non-personal documents that show the continual functioning of a group of people, institutions, departments, and the like can be securitized and analysed to get an unrevealed matter or information. Ritchie & Lewis (2003, p. 35) contend that this method is useful where the history of experience has relevance and where events cannot be studied by direct observation or interviewing. The table below describes the type of documents that were involved in the scrutiny.

Document's name	**Number of documents**	**Date**	**Documents' status**
National Policy of Education	1	2014	Ministerial
National Strategy of Inclusive Education	2	2009 & 2018	Ministerial
Students' works	10	2015, 2016, 2017, 2018, & 2019	School document
School general timetable	3	2019	School document

Table 10: Description of documents reviewed.

In this research, the National Strategy of Inclusive Education (2009 & 2018) and the National Policy of Education (2014) were examined along with other school-based documents as shown in Table 10 below. For adequate analyses of documents, Ulum & Köksal (2019, p. 71) proposed to design and use the specific checklist. In compliance with that, I prepared a guiding checklist for specific areas of analysis as intended by research objectives (see Appendix 17). As recommended by Décieux (2020, p. 51), the use of documentary analysis helps to understand the structure of what is explored and what such structure entails. Scrutiny of respective documents in this study was vital for capturing the academic accommodation of Deaf students through the articulation and provision of support services that would lead to a creation of an inclusive setting. The above documents in Table 9 were also studied to understand the extent to which they established an inclusive learning platform for accommodating Deaf students. The findings from the review of documents are presented, analysed, and discussed in Chapters Six, Seven, and Eight respectively.

5.5 Data Analysis

This study employed the Interpretive Phenomenological Analysis (IPA) as the main approach to analyse all data. The use of IPA was attributed to its ability to "understand the complex understanding of experience, an unfurling of perspectives and meanings, which are unique to a person's embodied and situated relationship to the world" (Karantonakis, 2018, p. 56). Lived experiences like visual communication, interactional behaviours, cooperation among Deaf and hearing persons form a complex context that needs to be analysed closely. The use of IPA allows the research to deep into the experiences of teachers and students in the entire inclusive school setting. IPA deals with the analysis of the daily lived experience of people and how much people interpret the world (Creswell, 2007). IPA originates from hermeneutics that considers interpreting social variables as the crucial approach to understanding the meaning of people's lived experiences (Karantonakis, 2018, p. 54) and how they make sense of their world (Wiggins, 2017, p. 46). In this study, the daily experience of hearing and Deaf persons means how they interact in school settings. Therefore, content analysis of written scripts, transcriptions of interview audio records and coding as key contents of IPA (Miles, Huberman, & Saldara, 2014, p. 11; Bryman, 2012, p. 565) were used for data analysis to explore policy documents, school programmes, examination papers and students' works.

However, since qualitative data analysis requires the researcher to be open to possibilities of explaining the findings, data analysis was taken as an activity that was done simultaneously with data collection, data interpretation and narrative report writing. Hence, in the first stages, data analysis involved the transcription[11] of the interviews and focus discussions to get scripts that were subjected to first cycle coding. As Saldana, (2015, p. 3) submits, first cycle coding enables the researcher to come out with transcripts from the spectrum of the data range. Later, the second cycle involved portions of coded data which were subjected to the development of themes.

The analysis of the data was done manually to enable easy interpretation of the specific phenomenon attached to participants' experience of inclusive education. Computer programmes such as ENvivo and SPSS could have been involved in the analysis, but the researcher was worried that the findings would have been distorted as computers are not capable of interpreting qualitative characteristics of responses. Consistent with this view, Noon (2018, p. 75) emphasizes that IPA seeks to understand the meaning individuals attach to human experience and is concerned with exploring experience in its terms. Therefore, each social process, transaction and interaction behaviours in the schools' contexts were interpreted through IPA.

5.6 Ethical Considerations

The aim of observing ethics during the whole research process is to maintain a positive relationship between the researcher and the respondent (Güngör & Özkara, 2017, p. 44) through maintaining privacy, human dignity, freedom, and justices. Therefore, from its early stages of proposal development, this research considered ethical protocols as directed by the Ethics Committee of the University of the Witwatersrand. The researcher adhered to the following protocols:

i. Ethical clearance

The researcher applied for ethical clearance from the Ethics Committee of the University of the Witwatersrand. After a thorough examination and satisfaction of the research proposal, data collection tools, letters of participants' informed consent, and all relevant research ethics protocols, the Committee issued the certificate of clearance with protocol number H19/03/21

[11] Given that I am fluent in English, data transcription was done by myself in order to avoid data distortions.

(see Appendix 1), as an indication that this research has addressed all issues related to ethical consideration in human research. Permissions to conduct this study were granted by the government of Tanzania through the President's Office – Regional Administration and Local Government who oversee the daily operations of schools in the country (see Appendix 2).

ii. Participants' informed consent

The engagement of Deaf participants in the research world has been less considered hence limited following the biometrical and social debates of the Deaf identity (McKee & Thew, 2013). This has failed to identify specific research protocols including ways to get the informed consent of Deaf participants. However, Anderson, et al., (2020, p. 116) mention that the first step for obtaining Deaf participants' informed consent is to use sign language as their primary language. With this research, both Tanzanian Sign Language (TSL) and written Kiswahili and English were used to participants in line with their language preference.

Respondents were notified about the objectives of this study and were given the freedom to ask for clarification, to participate or withdraw from the study at any time without prejudice to the study. Participants' Information Sheets and Informed Consent Forms were given to participants to read, understand, agree or disagree to participate in the study (see Appendices 5-16). For Deaf participants, the sign language interpreter was involved as a conduit for communication between the researcher and participants for additional information rather than the written one.

iii. Confidentiality

With respect to participants' privacy, confidentiality is one key issue addressed in research. Despite that confidentiality is closely related to anonymity, (Lancaster, 2017, p. 98) 'confidentiality is a complex process that involves more than merely disguising the identities of research participants or sites'. Complexities of confidentiality involving balancing between the trust of the participants and that of the researcher. Confidentiality goes beyond ensuring privacy is maintained. Lancaster (2017, p. 98) points out that confidentiality is not static but rather a flexible process of reducing harm to participants.

iv. Anonymity

Anonymity stands out as the best way of preventing participants' harm in research (Lancaster, 2017, p. 98). It involves reducing the chances of exposing the participant's identity. This includes the use of selected codes and pseudo names. However, anonymity itself cannot guarantee confidentiality given the nature of participants who are involved in research. Therefore, I generated coded and pseudo-names for all participants used in the research. This was together with reducing possibilities of identifying schools and participants of research. In this regard, no part of this thesis in which a school or participant has been mentioned by name or any other identity that would lead to exposing him/her/it.

Therefore, since this research was conducted among Deaf participants, there were no other ways of not using video recording for analysing visual language. In this regard, in order to maintain trust (Surmiak, 2020, p. 230), participants were consented to the use of their images for visual language analysis. However, the researcher did not collect any information such as gender, names, and institution names that would lead to the identification of participants' identity. So, codes and pseudo names were used throughout data collection, data analysis, and report writing. The rest of the information is kept in encrypted files and drawers. Similarly, participants were assured of anonymity and confidentially throughout the process.

These protocols above are some of what Bryman (2012, p. 135) calls "ethical principles of research": informed consent, avoid harm to participants, respect for privacy and avoiding deception. The application of ethical procedures into research activities is primarily designed to protect the rights of participants, the university, and the researcher from harmful or adverse consequences. Therefore, throughout the data collection, analysis and report writing, the rights and wishes of the participants were considered first.

5.7 Conclusion

This methodology chapter forms the heart of this research because it explains to the reader the entire process of research. The chapter discussed the methodology that was used during the research process. It has oriented the reader to understand the instrumentation of research whose data are presented in the next chapter (Chapter Five). Given that the study was conducted in the area of inclusive deaf education, a qualitative approach was adopted purposely in order to explore the behaviours and experiences of participants with Deaf

students. So, the choice and use of each method for data collection, analysis, and presentation were explained and justified in the right of Deaf persons' view. Data analysis procedures have been briefly analysed in this chapter, and much of it is described in Chapter Six. Lastly, participants' risks and limitations of data collection are sorted in ethical procedures of research. The chapter explains in detail all ethical procedures that were adhered throughout the research.

Chapter Six

Data Presentation

6.1 Introduction

In this chapter, data has been presented according to the schools that were involved in the study. The data range from the school context to research instruments that were used during data collection. Hence, each section of this chapter comprises specific facets through which the data were obtained. Therefore, this chapter comprises two sections: section one is the physical context of schools, and the second, data presentation. Specification of these sections is meant to enable the reader to connect between the cultural context of each school and specific data that are presented thereafter. School culture is a key phenomenon and the main point of analysis in this study. And so, the presentation of school cultural contexts of schools that were involved in the study pays great importance for further interpretation of the findings. In the second section, data are presented as they were collected. As it is explained in section 5.4.1, the research was flexible with the respondent's choice of a language. Hence, Kiswahili, English, and TSL were all used, and data are presented in the respective language and glossed accordingly. For TSL, all Deaf participants' responses were transliterated into English.

6.2 Section One: The Physical Contexts of the Schools

In this section, three physical contexts of the schools that were involved in the study have been presented. In each school, this research studied both the school structure and biography. For anonymity, the schools were given labels and, therefore, are identified as X, Y, and Z then followed by their descriptions hereunder.

6.2.1 Secondary School X

This was a secondary school with students from Form I to Form VI. It was an inclusive school with Deaf students and students with physical disabilities. It was a technical school with 68 (5%) Deaf students and 1,220 hearing students at the time the research was conducted. In this school, Deaf students were studying in their specific classes (see blue colour) and taught by specialist teachers in five subjects - Kiswahili, English, Geography, History, and Civics whilst the rest of the subjects (for example, Mathematics, Physics,

Chemistry and Biology) were taught by regular teachers in mainstream classes. So, Deaf students have to regularly move to mainstream classes for the four subjects. In English, Kiswahili, Geography, History and Civics, teachers had to move to classes of Deaf students.

Classes of Deaf students were close and amidst classes of hearing students. During breaks, meals and extra-curriculum activities, Deaf students regularly mixed with their hearing fellows. This is to the fact that the school follows the curriculum for ordinary level secondary education which determines the daily school programmes. For example, each day, lessons begin at 7:30 am and end at 14:30. The school motto is articulated in Kiswahili *"Kutii, Kuwajibika na Kubuni"* which means "Respect, Responsibility and Innovation". It is one of the giant secondary schools in the country having its history since the early 1950s. Initially, this school followed the curriculum for technical education until the early 2010's when it adopted the general curriculum and started admitting Deaf students.

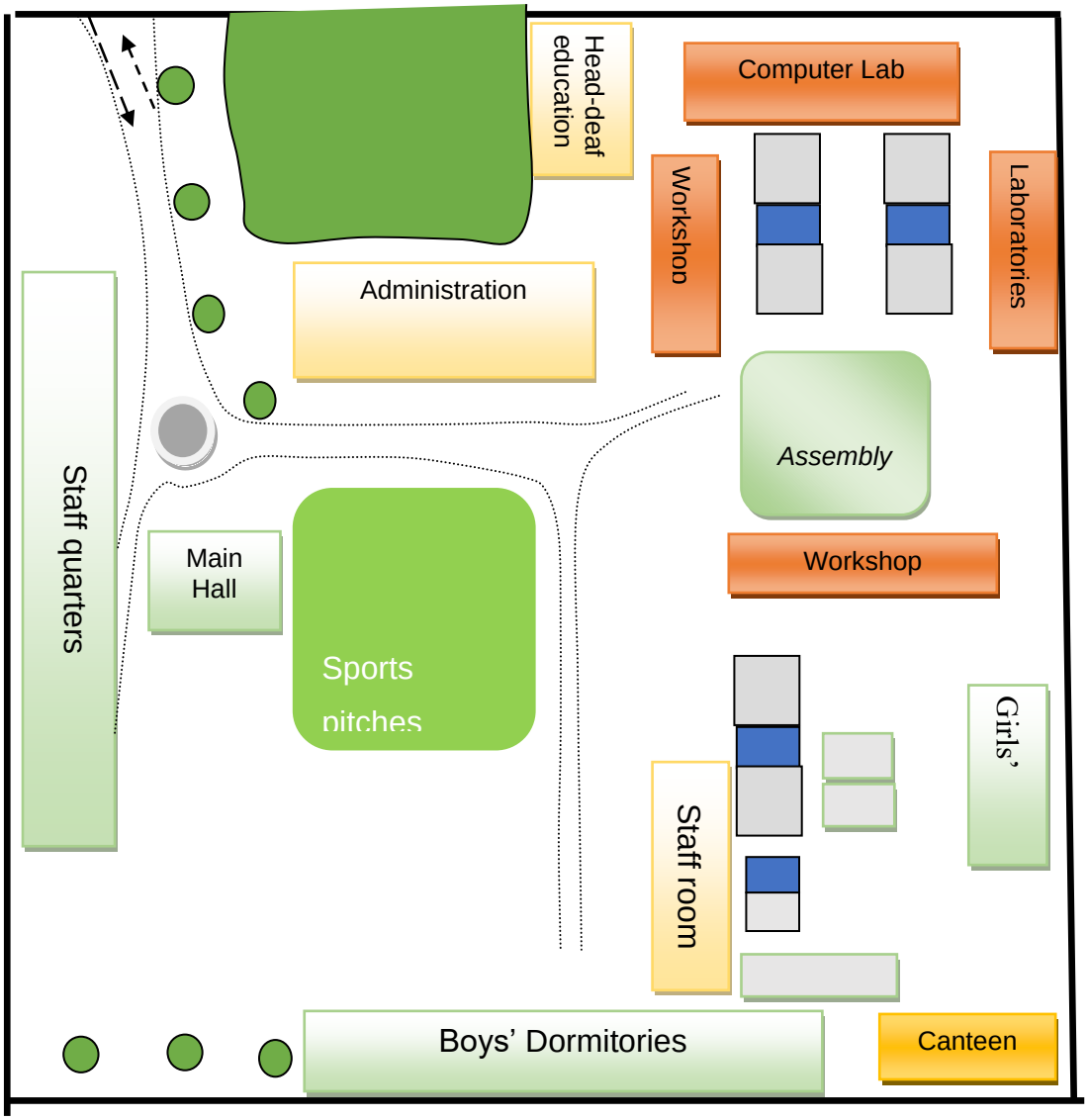


Figure 3: A sketch map of school X

6.2.2 Secondary School Y

School Y is a co-education boarding inclusive school. It composes of hearing students, Deaf students and students with physical disabilities. All students study together in mainstream classes. Except for practical sessions where students shift to laboratories, teachers always have to find and teach students in their respective classes. By the time of this research, the school had 30 (6%) Deaf students and 488 (94%) hearing students. The school follows the curriculum for ordinary level secondary education for teaching and assessing its students.

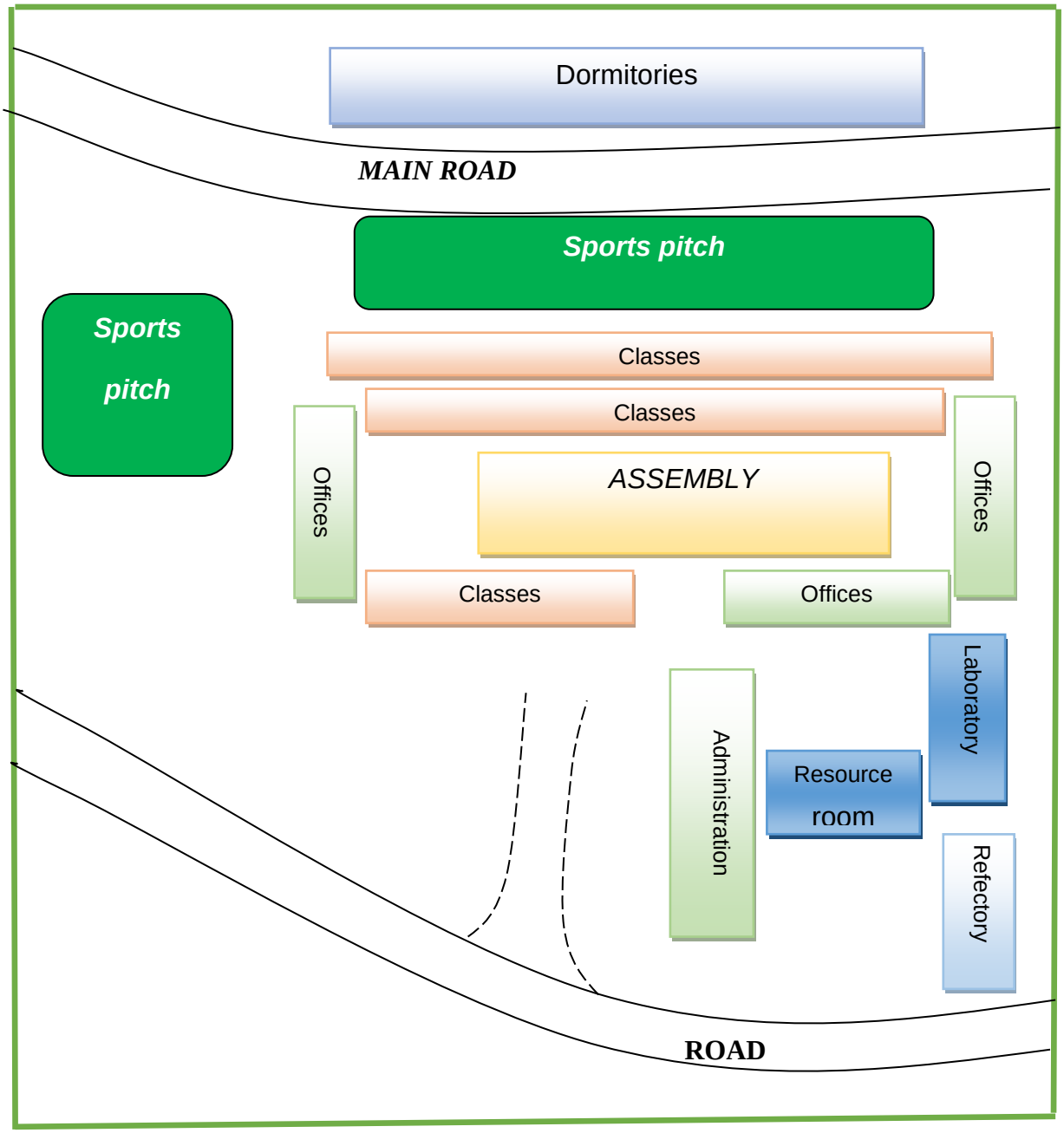


Figure 4: A sketch map of school Y

6.2.3 Secondary School Z

This is a secondary school for Deaf students. The school consists of students from Form I to Form IV. The school's capacity was 120 students and it had 104(86%) students. The school was operated under the curriculum for ordinary level secondary education which determines the school daily programme. The school motto was "Education is Liberation". The school was started in 2004 by the Evangelical Lutheran Church of Tanzania but jointly operated by the government. The church owns the buildings and management whereas the government employs teachers, allocates students, and pays for students' meals.

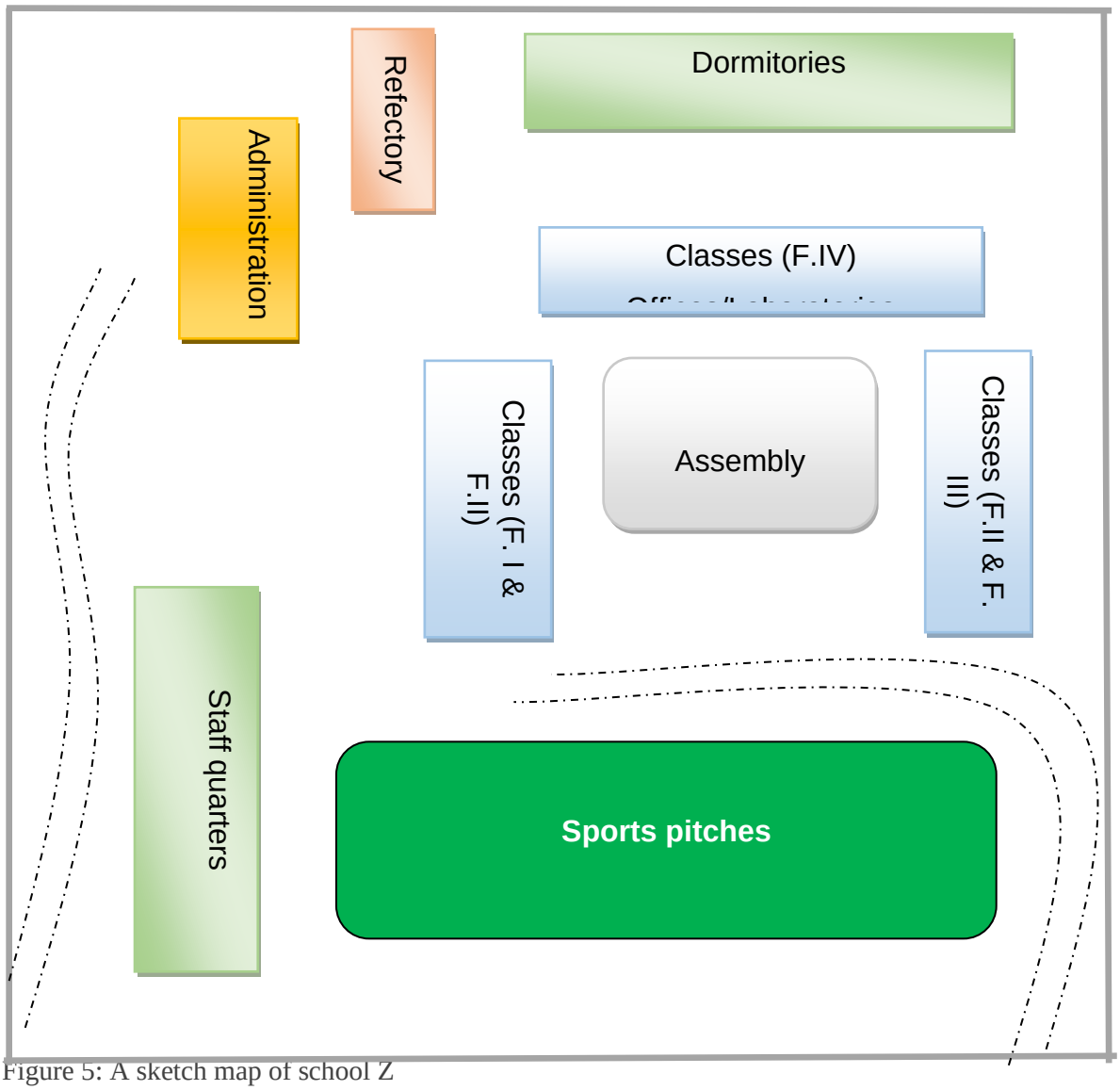


Figure 5: A sketch map of school Z

6.3 Section Two: Data Presentation

In this section, the data are presented according to how they were collected from the field. Therefore, it comprises subsections whereby each one constitutes specific data from the field. Three languages (Kiswahili, English, and Tanzanian Sign Language) were allowed on board to allow respondents to navigate through the preferred language. For Tanzanian Sign Language, English transliteration was used to present responses of the Deaf participants.

6.3.1 Interview

Interviews were held with students and teachers in two phases of the research. In the first phase, the researcher used a personal interview with teachers and hearing students. The

second phase was a follow-up phase and it depended on the nature of answers provided in the first phase. So, the follow-up phase was done to students only. The interview focused mainly on two areas:

i. Reflection on the experience with Deaf learners in an inclusive setting;
ii. Reflection of school culture and accommodation.

In each of the above two areas, sub-questions were drafted to capture the wide coverage of the responses. Hence, questions were differentiated between teachers and students.

6.3.1.1 Interview with Hearing Students

Eight hearing students were involved in the interviews. From each of the two inclusive schools, four students were interviewed where the friends of the Deaf and those who w*ere* not were selected for interview. The interview was conducted in a manner that students were given enough space to express their views regarding the two areas.

6.3.1.1.1 Reflection on the Experience with Deaf Students

School X

The varieties of answers were expressed by the four students regarding their views on the conception of Deaf students. Some interesting responses from a nonfriend of the Deaf were highlighted. For example, when asked to express their feelings when studying with Deaf students in the same class, a nonfriend of the Deaf said, *"mie kwangu ipo sawa tu kwa sababu najifunza mengi pia kutoka kwao"* translated in English as "with me it is okay because I learn a lot from them". When asked about the frequency at which he faced Deaf students for assistance, he said *"sijawahi kumfuata kiziwi ili kumuuliza chochote"* meaning in English "I have never gone to the Deaf for any enquiry". When asked further why he had never sought assistance from the Deaf, he argued that *"siwezi kuwasiliana nao"* translated in English as "I cannot communicate with them". The other non-friend student reflected similar responses while emphasizing that the most remarkable barrier was language and communication between him and Deaf students.

On the other hand, when friends of Deaf students were asked the same questions, they reflected somewhat variant views. For example, one student replied:

> *"Kwa kweli mie nafurahi sana kusoma na wanafunzi viziwi kwa sababu najifunza mengi sana kutoka kwao. Unajua, hawa wanafunzi wana vitu vingi vizuri na napenda kuwasaidia."*

Its English translation is:

> "Honestly, I feel very happy to study together with Deaf students because I learn a lot from them. You know, these students have many good things and I like to help them."

When further asked about what she learnt from Deaf students, she was categorical that *"kwa sasa najua lugha ya alama ambayo sikuijua mwanzoni"* which translates in English language as, "now I know sign language that I never knew before".

Similarly, the other hearing student was also positive towards Deaf students. When prompted about what he felt about studying with Deaf students in an inclusive setting, he replied that *"najisikia faraja kusoma nao kwa sababu nao ni binadamu kama tulivo sisi"* meaning in English as "I am pleased to study together with them because they are as human beings as we are". When further asked about the frequency to which he had asked for help from Deaf students, he responded that *"mara nyingi nawauliza kusaidia hasa kwenye masomo na sehemu nyingine"* in English translation "I often ask them to help me especially during discussions and other areas". I further asked him the rate of the assistance he got from them. In this case, he replied that *"ni wazi mara nyingi hawaelewi hasa kwenye masomo, kwa hiyo napata msaada kidogo. Hiyo inanifanya niwe nao zaidi ili niwasaidie pia"*. Its English translation is "it is true that more often they do not understand me especially in academics, so I usually get a little from them. This is what makes me close to them so as to assist them too".

School Y

The same questions were posed to students from this school. As it was in school X, students were prompted to express their feelings about the conception of Deaf students. For example, when asked "How often do you ask Deaf students to assist you on a concept you did not understand in class?", respondents seemed to have different answers. One non-friend student said, *"Najisikia vizuri nikimuuliza mwanafunzi anayesikia kuliko kumuuliza kiziwi",* meaning in English that "I feel more comfortable to ask a hearing friend than a Deaf". When further

prompted why she did not feel comfortable to ask a Deaf friend, she explained that she was not proficient in sign language use. Similarly, another non-friend student was categorical that she could only seek for assistance from Deaf students when they are in discussions. When she was further probed on her assertion, she accepted that she had never been close to them and so she usually felt uneasy to come close to them. Meanwhile, one friend student affirmed that *"Inawezekana tu wakati wa majadiliano na ni pale napojua kuwa kiziwi anajua kuliko mimi"* translated in English as "It is only possible in group discussions and when I am sure that the Deaf knows more than I do". Her response forced me to probe further about the possibilities of continual consultations. She revealed that she faced a communication challenge with the Deaf fellow students.

6.3.1.1.2 Reflection of School Culture and Accommodation

This subtheme intended to assess how the culture of the school accommodated Deaf students. On part of students, the questions were structured in line with their collaboration and communication. There were two guiding questions regarding the school culture and accommodation of Deaf students. The questions were:

i. How often do you study and cooperate with Deaf students in the class, discussion groups, and why?
ii. How often does the school promote the use of sign language within the school compound?

Below are the narratives of the responses from the hearing students.

School X

When asked about how they cooperated with Deaf students, hearing students had different views. For example, one non-friend of the Deaf expressed that he had never thought of working with Deaf students. When prompted to substantiate his claim, he argued that he did not think about working with Deaf students. He explained that *"wanafunzi viziwi ni wakorofi sana"* translated in English as "Deaf students are impolite". I was interested in the student to mention areas or situations in which Deaf students had acted impolitely, but the student was not able to outline them. The second non-friend student mentioned that he had not come

across Deaf students since his childhood, and he felt troubled in communicating with them when he came across them.

With the friends of the Deaf, various responses indicated that students liked cooperating with Deaf students. In one of the responses, hearing students indicated that Deaf students had some strengths and weaknesses just like any other person. One student expressed that:

> *"…tunafanya nao kazi na kusoma pamoja kama ilivyo kwa wanafunzi wengine. Hatuna sababu ya kuwatenga kwa sababu nao ni wanadamu, na wana mazuri na mabaya yao kama ilivyo kwa wengine"*

Translated in English as:

> "…we work and study together with them just like any other student. We have no reason for isolating them because they are also human beings, and they have their strengths and weaknesses like the others".

School Y

Similarly, four hearing students were interviewed separately regarding the ways Deaf students were accommodated in their inclusive setting. For example, when students were asked about their feelings on when Deaf students needed assistance from them, 3 (75%) students affirmed to be ready to assist them while 1 (25%) felt he could not. An interesting response was from a friend of the Deaf students: *"Mimi wakinifata nawasaidia ingawa sina alama za kutosha…na nikishindwa, nawapeleka kwa wanafunzi wengine"* translated in English as "With me, when they come to me, I can assist despite that I have inadequate signs…and when I fail, I take them to other students".

However, when hearing students were asked to express the different ways they used to communicate with Deaf students, all four students (100%) responded that they were using signs. The follow-up question was asked, "where do you use such signs?". With this question, varied answers indicated different settings in which signs were used to facilitate communication between the hearing and Deaf students. For example, 2(50%) students identified classroom and discussions, 1(25) identified dormitories, and 1 (25%) indicated sports and games.

6.3.1.2 Interview with Deaf Students

Three personal interviews were conducted with three Deaf students. The interviews were conducted as a follow-up of the focus group discussion whereby one student was chosen from the group for in-depth interviews. Two thematic areas for the interview were formulated into two guiding questions:

i. How often do you study and cooperate with hearing students in class, discussion groups, and why?
ii. How often does the school promote the use of sign language within the school compounds?

Since the three students were from the three schools, narratives of their responses were presented as per schools. However, in response to question one, only inclusive schools X and Y were involved.

School X

The Deaf student insisted that there was a line of dispersion between hearing and Deaf students. She noted that, even though the school allowed all students to mix and study together during preparation[12] hours, most Deaf students preferred to study alone. During group discussions, Deaf students were usually passive, and they did not contribute anything. When prompted to share her attitude towards the hearing students, he affirmed that "…ME FRIEND AVAILABLE AND I SHARE WITH THEM AND STUDY TOGETHER". On the other hand, she pointed out that some hearing students were rude and discriminative of the Deaf students. However, she emphasized that, despite the situation, one could not lose hope because of that.

On the question of sign language use, she said that the school had sign language clubs that assisted the hearing mates to learn how to communicate with Deaf students. Since Deaf students have their classes separate from their hearing counterparts, teachers of the Deaf classes used code blending to communicate and teach. However, apart from classes and sign language clubs, the medium of communication in the school was the English language.

[12] This is the time students have their independent studies and usually at night.

School Y

At school Y, Deaf and hearing students mixed freely in every situation. However, one respondent noted that Deaf students preferred to be in groups of Deaf students and hardly interacted with the hearing students. She affirmed that even though their school insisted students to interact in all situations; the school modality of communication did not support such interaction. She observed that, for example, teachers did not sign even in classes, nowhere students are encouraged to use signs, announcements are in spoken languages, and these make Deaf students feel excluded.

School Z

At school Z, the question was on ways the school promoted the use of sign language. One respondent noted that some teachers could sign, and the majority used mouthing. The school had a sign language club which was helpful to Deaf students who had little knowledge of signs, and teachers who wanted to learn sign language for their communication. However, he said that assessments were done in English which proved a difficult language to them; hence, the majority did not do well in their examinations.

6.3.1.3 Interview with Teachers

Six classroom teachers and three heads of school from the three schools were interviewed. As it was with hearing students, the interviews with teachers focused on two areas:

i. The experience with Deaf students
ii. School culture and classroom accommodation

Open interviews were administered at different times and their responses are narrated in the following subsections.

6.3.1.3.1 Experience with Deaf Students

Interviews with teachers have reflected the teacher's experiences with Deaf students. Interview questions were framed in such a way that teachers could have adequate space to express their views regarding Deaf students. Hence, the following sections contain narratives of the teachers' responses from the three schools.

School X

In this school, three teachers were interviewed. With teachers, I wanted to understand the meaning they posed to Deaf students before, during and after teaching them and to assess how they perceive Deaf students – with its respective effects on school accommodation. Regarding the meaning given to Deaf students, there was uniformity over the responses from teachers. For example, when asked to share their feelings over teaching Deaf students in inclusive classes, teachers' responses were more or less the same. In this regard, Teacher Pe said, "I am hurt when I see Deaf students failing in their examinations". When prompted to explain further why he was hurt, he explained, "I see Deaf people as potential only that they are denied the right to access their language".

Similarly, Teacher Lu was of the view that teaching Deaf students made him proud despite the fact that language was a barrier. However, he added, "sometimes I have a feeling that Deaf students are just enrolled in secondary education without qualification". When probed to explain his response further, he said, "…some of them have the very low intellectual ability."

On the other hand, Teacher Ki did not show the position of his feelings with respect to having Deaf learners at the school. However, he insisted that it was the directive of the government that all students should study together in the schools and classes. So, he had no option on the choice rather than enrolling them.

School Y

In this school, three teachers were involved in the interview. Similarly, I wanted to understand what meaning they put to Deaf students before, during and after lessons. In this school, responses to similar questions asked at school X were variant. Some responses reflected some positive attitudes to Deaf learners while others showed some degrees of disapproval towards Deaf learners. For example, when asked to express their feelings on teaching Deaf students in an inclusive class, Teacher Je proposed that *"ni vigumu sana na kwa kweli inaturudisha nyuma sana kumaliza syllabus zetu"* meaning in English that "it is difficult to teach them, and it makes us delay in completing our syllabi. The teacher was further asked follow-up questions to clarify how the presence of Deaf students caused some delays in the syllabus coverage. He responded, *"hawa wanafunzi ni slow learners kwa hiyo*

kuwafundisha pamoja na wenzao darasani inasumbua sana" translated in English as "these students are slow learners, so, to teach them together with hearing students in one class is problematic."

Similarly, Teacher Ti was positive towards Deaf students. When describing his feelings about teaching Deaf students, he admitted that Deaf students could be taught together with hearing students in the same class. However, he insisted that "teachers need to be exposed to the psychology and learning styles of Deaf students".

Additionally, Teacher Ra pointed out that his school was not prepared to handle Deaf students despite having been admitting them for more than seven years. He was of the view that Deaf students had contributed to the poor academic results of the school in the national examinations. When asked whether hearing students did not fail the said examinations, he affirmed that Deaf students had continually failed; hence, the school ranking in the national examinations had regularly been down.

School Z

Teachers at school Z reflected two points of view when responding to the question that required them to express their feelings on teaching Deaf students. For example, Teacher My said, *"...tatizo tunalolipata ni kwamba tunapimwa kwa kufaulisha wanafunzi hawa. Wengi wao hawafundishiki, na wakifeli sisi walimu tunatazamwa sana"* translated in English as "…the problem we face is that we are evaluated on the basis of the academic performance of these students. Majority of them cannot understand, and if they fail, we get into trouble". When further asked to explain why he thought Deaf students were unable to learn, there was no answer given. When asked how teachers got into trouble when Deaf students failed, he commented that, usually, the quality assurance officers, and the head of their school would normally check on the coverage of the syllabus.

Another teacher responded, *"ningependa nifundishe shule za kawaida"* translated in English as "I would wish to teach at the regular schools". Provoked to explain further, he said that *"mie sijawahi kusomea elimu maalum, kwa hiyo nateseka tu namna ya kuwafundisha na kuwaelewesha vizuri"* in English "I am a regular teacher; so, I get trouble to teach Deaf students and make them understand concepts". He was further asked to mention what troubled him when teaching Deaf students. He explained that communication between him

and students was a serious problem. He maintained that some concepts in Mathematics had no signs, so clarifying some concepts to Deaf students was quite challenging.

However, on her side, Teacher Lu was probed to reveal the extent to which the school affects how Deaf students are perceived. In her response, the teacher explained that, as a school of the Deaf, the school community understands the needs of Deaf students since they are aware that it was established to assist them. However, she affirmed that, despite that the school being meant for Deaf students only, teachers who were posted in the school came from different social backgrounds; hence, this had an impact on their treatment of Deaf students. When asked how teachers' backgrounds impacted their understanding of Deaf students, he pointed out:

> *"…Walimu wanakuja na hisia zao kuhusu viziwi na hiyo inaathiri sana ufundishaji. Kuna wengine wanaamini viziwi hawawezi kitu, sasa fikiria anawafundishaje."*

Translated in English as:

> "…Teachers come with their feelings over Deaf students, and it affects the whole teaching process. There are those who believe that Deaf students cannot do anything. How do you expect such teachers to teach them?"

6.3.1.3.2 School Culture and Classroom Accommodation

Apart from the experience with Deaf learners, the school culture and classroom accommodation were explored. Thus, the interview questions were designed in such a way that teachers were given ample space to express their views regarding how Deaf students find their paths within an inclusive setting. Three areas were the focus of the interviews:

i. Language and communication
ii. School programmes
iii. Pedagogical adaptations

In these three areas, the interview question was open-ended to allow a wide range of discussion and exploration. The interview responses are reported as per areas of focus.

i. Language and Communication

In this aspect, teachers were asked to express their views regarding the ways they communicated with Deaf students during and after the lessons. The guiding questions in this area was: 'What language do you use for communication and instruction between you and Deaf students?'. Various responses were elicited.

School X

At school X, all three teachers affirmed that the language they used the most was spoken Kiswahili and in few cases English. When further prompted to give the reasons for the choice of such languages, there were different responses. For example, Teacher Ki said, *"Sijui lugha ya alama. Kwa hiyo, njia rahisi kwangu ni kutumia lugha ya mazungumzo"* translated in English as "I do not know sign language. So, to me, the simple language to use is spoken language". When prompted further to explain how Deaf students benefited from spoken language, he was evasive on the question and then bring in the idea of his precarious position which forced him to use spoken language.

Teacher Li further made it clear that "I mostly use Kiswahili, but occasionally, I can switch to Sign Language". To explain further occasions in which he switches to sign language, she explicated that "…when I meet them directly".

However, one teacher clarified that the language of communication in school was English. She expounded his observations:

> "…The directives of the education policy and school sub-policies have stipulated that English is used as the prescribed medium of communication, instruction, and assessment at all levels of education. It is for such directives we are using English mostly in our internal communication."

This response provoked the question of how the Deaf students were handled within such policy directives. On this, the teacher had this to say:

"…We know we are excluding them. But we have no options. At least during general announcements, we may have some students to interpret for them. I am not sure what happens in their classes…"

Whether the school has special programmes to enable interactions between Deaf and hearing students, she insisted that the school had launched sign language clubs with the intention to reduce communication gaps between hearing and Deaf members at the school. However, the implementation of such a programme was faced with several problems including the teachers' willingness to supervise them. Similarly, the school timetable was tight in such a way that there was inadequate space for sign language clubs as revealed when he said:

"…Walimu wamekuwa kikwazo kikubwa kwenye utekelezaji wa clubs za lugha ya alama. Wengi wao wanadai posho kwa kazi za ziada, na kama unavyojua sasa hivi suala la posho ni hatari. Hii inasababisha mpango huo kusua sua na sina uhakika sana kama haujafa"

Meaning in English,

"…teachers have been a hindrance to the implementation of sign language clubs. The majority of them have consistently demanded extra allowances, and as you know, the cases of allowance are a threat nowadays. This has caused a delay and inconsistency in its implementation and I am unsure whether the programme hasn't really died."

School Y

In this school, there were different responses which showed that language polic(ies) in this school hardly provided sufficient language access to Deaf students. For example, the response from Mr. Rahim indicated that the language of communication in the school was English. When asked further about the language of communication and instruction in classes, he affirmed that "it is recommended that we use English in class". When he was prompted further to explain how Deaf students benefited from the use English language in class, he replied that:

"…Natambua uwepo wa wanafunzi viziwi darasani lakini sina namna ya kuwafundisha kwa kutumia lugha ya alama. Utaratibu wa shule ni

kwamba tunafundisha kwa kutumia kiingereza na baadae wanafunzi viziwi watasaidiwa na wenzao baada ya kipindi."

Translated in English as:

> "…I admit that there are Deaf students in class, but I have no alternative ways of teaching them by using sign language. The school directive is that we have to teach in the English language and after classes, the hearing students will assist their Deaf colleagues."

In similar contexts, Teacher Ti said that the overall language policy of the school prohibited the use of languages other than English during classroom instruction. When asked to explain further how Deaf students benefited from the use of English language during classroom instruction, he was of the view that Deaf students were deprived of their rights to communication and language access. He mentioned that *"…ni kweli tunawanyima haki ya mawasiliano lakini hatuna namna ya kufanya"* translated in English as "…actually, we are denying them their rights to communication, but we have no option."

However, the in-depth interview with Teacher Ra noted that Deaf students in their school were obliged to cope with the school communication policy especially in classes and during examinations. In all situations, the main language of communication and assessment was English.

However, Teacher Wi was of the view that the school, though it was recommended to use the English language as the language of communication and instruction in classes, and given that Deaf students hardly benefit from the oral system, they were allowed to use sign language in their discussions and communication outside lessons.

School Z

In this school, responses from three respondents were not uniform. Despite being a school for the Deaf, some respondents viewed sign language as a problem between them and Deaf students while others insisted on the use of sign language in communication, instruction and assessment. For example, Teacher Ish said:

> "…We still have a big problem in the use of sign language during classroom instruction. You see, we teach using signs, but the exams are set in English, so, in essence, we are doing nothing."

This response provoked more a follow-up question on what appropriate language was applied during his classroom teaching. He highlighted that he used English with limited signs. He explained:

> "…of course, I use English mostly but with limited signing. I do this to help Deaf students to capture some new terminologies and signs in English".

When prompted to ascertain whether his approach was helpful to Deaf students, he advised that students had understood him better than when they were taught in Kiswahili or English alone.

On the other hand, Teacher Lu highlighted that she had been adopting code-mixing in the class where three languages were used at par. She submitted that she mostly used signs and sign language and mouthing in English. However, she contended that exams were set in English which the Deaf students failed to understand. She, nevertheless, explained why she preferred the use of signs:

> "…I USE SIGNS BECAUSE DEAF STUDENTS USE SIGNS TO COMMUNICATE. NOW TEACH IN ENGLISH DEAF UNDERSTAND HOW"

When prompted further on communication, instruction and assessment in his school, Teacher Ish confirmed that the management was in a dilemma on what language was being used in this school. He affirmed:

> "…Our school is a special school of the Deaf but is being operated under the policies and directives of the government. So, we are supposed to encourage the use of the English language as the language of communication, teaching, and assessment. However, our Deaf students mostly use sign language as their main language of communication. So, we are getting in trouble."

Despite that precarious reality, he explained further:

> "…We are encouraging our teachers to use English in class and support their teaching with signs. However, teachers do not do this, and instead, they choose what is appropriate for them."

ii. School Programmes

This was another aspect of this research through which school culture was examined. In this aspect, teachers were asked to reflect on students' diversity, daily school programmes, school motto and cooperation among students and teachers. Hence, open-ended questions were structured in a manner that teachers would have a wide platform of expression. In all the three schools, responses were uniform on some questions and different on some as well. For example, when asked how they planned their daily school programmes, the uniform answer was that they followed the general school curriculum which was pre-determined by the government. When further asked how they handled students' diversity, there were diverse responses among teachers.

School X

One respondent from this school affirmed that the school infrastructure was accommodative to the diverse learning needs of their students. For example, he mentioned the availability of door slopes for physically impaired students. When prompted to explain how Deaf students' learning diversities were accommodated, he stated that *"kwa kweli hakuna chochote kwa viziwi"* meaning in English "there is nothing for the Deaf".

School Y

Responses from school X implied that there were specific efforts that had been done at the school level to accommodate students' diversities. For example, one of the respondents explained that *"...tumejitahidi kwa kweli…tuna resource room kwa ajili ya viziwi na majumba yote tumeyawekea miteremko kwa ajili ya wanafunzi wenye ulemavu wa viungo"* translated in English as "…we have tried…we have the resource room for Deaf students, and we have built slopes for persons with physical impairments in all buildings."

School Z

At school Z, respondents were of different perspectives regarding how Deaf students' diversity was accommodated. For example, one teacher highlighted that the school had divided students into small classes of seven to nine students to enable them to have adequate space for learning.

Different responses from participants indicated that Deaf students' diversity was not well-known among the teachers of this school. One teacher observed *"...tatizo kubwa tunalolipata hasa ni aina ya wanafunzi wanaotuletea hapa shuleni. Wapo baadhi ya wanafunzi ambao wana ulemevu tofauti tofauti, na wapo wenye matatizo tofauti ya usikivu"* translated in English as "…the challenge we get is the type of students we receive every year. There are those who have multiple disabilities and others with different levels of hearing loss".

iii. **Pedagogical Adaptations**

Pedagogical adaptation was one of the aspects that reflected how the school culture considers the learning needs of students. On pedagogical adaptations, questions were intended to explore any considerations teachers took during planning, teaching, and evaluating their students. Six teachers revealed different situations regarding their pedagogical adaptations. In their responses, it was plain that teachers had different mechanisms that were intended to enable Deaf students to cope with learning in an inclusive setting. For example, at school X, Deaf students were taught separately in their special classes but interacted with the others during science subjects and extra-curricular activities. However, teachers affirmed that they used regular methods to teach Deaf students. For example, Teacher Ki said, *"...tunawafundisha kawaida tu, ila ni kazi sana wao kuelewa"* meaning in English, "…we are teaching them by using regular methods, but it is hectic for them to understand".

On the other hand, teachers at school Y revealed a presence of different situations that would result in variations in pedagogical choices among teachers. Despite the fact that Deaf students were studying together with their hearing peers in one class, approaches used by teachers were subject to one's wishes. For example, Teacher Ki established that *"...kila mwalimu na namna anavyoweweza kuwafundisha"* meaning that "…every teacher with his/her different

way of teaching them". When further asked about her methods of teaching, she said that she so often used groups and discussions to teach Deaf students. On a different view, Teacher Ti said that he used common methods to teach Deaf students in an inclusive class. When prompted to explain further how Deaf students benefited from such regular methods, he affirmed, *"...sina namna ya kuwafundisha peke yao kwenye darasa jumuishi"* meaning in English that "…I have no alternative way of teaching them in an inclusive class".

At school Z, teachers were divided in their responses on the ways they adapted their teaching methods to accommodate Deaf students' needs. Despite that, and though it was a school for the Deaf, it was clear that the teaching methods used by teachers were determined by teachers' wishes but not the school's ideology. For example, Teacher My revealed that teachers were forced to avoid the use of Deaf pedagogical approaches because of catching up with the syllabus coverage.

In a different way, Teacher Li showed that she used peer-to-peer teaching to teach Deaf students. Prompted whether she managed to cover the syllabus in her approach, she highlighted that she usually did not. However, she claimed that she manages to prepare her students for the final Form Four National examinations.

6.3.2 Focus Group Discussion

Focus group discussions were held with Deaf and hearing students in two phases; the first phase was the pilot and the second an in-depth discussion with a variant number of Deaf students from each school. So, 32 Deaf students, 8 hearing and 4 graduated students were interviewed. As explained in section 5.4.3, participants were grouped into small groups and they were interviewed in different sessions. All the categories of respondents were interviewed separately. The sessions were recorded both in audio and video for hearing and Deaf participants, respectively. The focus discussion focused on the following areas:

i. The impression of studying in an inclusive setting
ii. Learning accommodation in a school

The two themes were broken down into a series of guiding open-ended questions. However, as narrated below, there were diverse responses from respondents regarding each of the two themes above.

6.3.2.1 Studying in an inclusive setting

This theme was meant to unpack students' impressions on how they thought about being part of an inclusive school setting. Hence, this question was administered to schools X and Y because they were inclusive schools with Deaf students. Several sub-questions were structured and administered to students. As a general view, there was no one-way response. For example, when prompted to explain their feelings over studying with hearing students in one class, 16 (76.2%) students said that they were not comfortable, while 3 (14.3%) said they were comfortable. The rest 2 (9.5%) students had been noncommittal to responses. More probing questions were asked to all students who were required to explain their views further.

With the 16 students, there were diverse concerns about why they felt uncomfortable. For example, 11 students explained that they had been being segregated by hearing students in various school activities whereas 5 said that they were being perceived as being dull students who knew nothing, thus they were not being engaged in various academic activities equally as hearing mates.

On the other hand, 3 students who claimed to be comfortable in an inclusive setting were of the view that they got different forms of support from hearing students despite some shortcomings that existed between the Deaf and hearing students. For the 3 students, studying with hearing students helped the Deaf to better understand some difficult concepts in the subjects especially when such concepts had not been fully comprehended. When prompted about the view that hearing students disliked Deaf students, there were diverse answers. For example, 1 Deaf respondent affirmed that "DEAF LOVE NO ALSO, SO HEARING LOVE US HOW?"

The other Deaf student was of the view that it might not be absolute that hearing students hated the Deaf, rather, it depends on how the Deaf placed themselves in the hearing community. She affirmed that they are willing to interact and work with their hearing peers. On their side, hearing students' views over inclusive education was double-edged. Some students demonstrated to be positive with inclusion while others were negative. For example, 6 (75%) students were of the view that inclusive education was beneficial to them whereas 2 (25%) were negative.

The 75% indicated that through inclusion, they could learn different ways of life including understanding sign language as a medium of communication between them and Deaf students. However, 25% affirmed that they never had the opportunity to interact with Deaf persons earlier.

On their part, graduated Form four Deaf students had divided perspectives regarding studying with hearing students in an inclusive setting – in which three were positive while one was negative towards the situation. On those who were positive, their assertions were based on personal determination instead of depending on either the teacher or school culture. In their experiences, they identified that students' self-determination was key to success. However, they held the view that the segregation they faced in inclusive schools was a result of the social system, hence, teachers cannot run away from it.

When prompted to express their feelings if they are reversed to secondary education, there were different propositions. Three graduated Deaf students showed their readiness and preference to go back to inclusive schools whilst holding the hope of doing even better than they did previously. They affirmed that previously schools did not have any support for Deaf students, so, studying was a personal effort. Additionally, in their scholarship, Deaf students were few among the majority hearing students unlike now when classes have between 5-12 students in one stream. For example, graduated student 3 explained:

> *"…sisi tulisoma kwa shida sana. Unajikuta darasani upo mwenyewe…wakati mwingine unatengwa kabisa. Na wakati mwingine hata rafiki yako naye anatengwa, sasa kama unampata rafiki muoga anakukimbia unabaki mwenyewe. Siku hizi darasani kuna wanafunzi viziwi wengi na hata mkitengwa mnakuwa marafiki wenyewe."*

Meaning in English as:

> "…we studied under difficult times. You find you are alone in class…sometimes you are being isolated. Sometimes even your friend is being segregated, so, if you have a friend who is not stable, she avoids you as well. Nowadays, there are several Deaf students in one class and even if you are being segregated, you can form friendship amongst yourselves."

On the contrary, one Deaf adult (graduated student 4) affirmed that she could not go back to inclusive secondary schools because of 'segregation' between hearing and Deaf students. When further asked to explain how segregation was practised, she indicated that hearing students were not friendly to her. However, she further identified that she had three hearing friends who were assisting her during her studies. When further prompted to give suggestions on the best way out on the education of Deaf students, she was not in the position to suggest any.

6.3.2.2 Learning accommodation in a school

With this theme, respondents were expected to unpack teachers' classroom accommodation strategies, school policies and programmes. The concern was to explore whether there were differences in learning accommodation between Deaf and hearing students. Thus, several open-ended questions were administered to respondents. Responses were meant to demonstrate the line between Deaf and hearing respondents.

With Deaf students, there was a strong belief that teachers' methods of teaching, policies, and school programmes were skewed towards benefiting the hearing students. For example, among 32 Deaf students, 29 (90.7%) asserted that Deaf students were not considered at all during classroom teaching and assessment. With them, teachers had regularly used spoken language which was only beneficial to hearing students than to Deaf students. On assessment, all 32 (100%) Deaf students highlighted that examinations did not accommodate the needs of Deaf students, hence, the majority of them failed or scored low marks as compared to hearing students. For example, they indicated that teachers did not give adequate instructions to Deaf students during examinations. Instead, they instructed them in spoken languages; hence, benefiting hearing students only. Furthermore, examinations were being set in long and complex English sentences which were difficult for Deaf students' comprehension.

With hearing students, the belief that Deaf students were not accommodated in various school activities emerged as well. All eight hearing students affirmed that, during lessons, teachers used spoken languages as the main modality of classroom communication. Sometimes, during general announcements, it was affirmed that Deaf students were assisted by hearing students who assumed the roles of sign language interpreters. For example, one student said *"…walimu wanafundisha kwa kuzungumza…wakati mwingine tunawasaidia viziwi kwa*

kukalimani" to mean "…normally, the teacher is using spoken language(s) in class…sometimes, we assist Deaf students in sign language interpretation". However, sign language interpretation service is not permitted during the classroom lesson, instead, the Deaf are assisted after classes. In such instance, one student indicated that *"…mwalimu anapokuwa anafundisha darasani haturuhusiwi kukalimani…mara nyingi tunawasaidia baada ya madarasa"* to mean in English as "…we are not allowed to interpret for Deaf students during classes…so often we do it after classes".

6.3.3 Observation

Observations that were done in all the three schools involved the researcher entering into classes, accessing manual labour sessions, meals, and extra-curriculum activities. In this, data related to behaviours were recorded on the field note. Such cues like how the duration taken by students to respond to questions, whether there were any attempts to include Deaf students in discussions, polite or harsh language used, the kind of language used in games and sports, whether deaf students played with their hearing mates, and other of the alike. Therefore, through observations, I collected raw data that focused on the following main areas:

i. Methods used by teachers to teach inclusive classes with Deaf students.
ii. Ways in which teachers worked with Deaf students outside the classroom.
iii. Ways in which hearing students cooperated with Deaf students in and outside classes.
iv. Deaf accommodation facilities in the schools.

At first, the biography of each school was captured (see 6.2), and the maps are shown below. In each case of school observation, the above areas are presented. The presentation of observations will be based on schools as highlighted below. Mostly, this tool collected data that were related to school culture as an entire focus of the study. Their data collection was done at every point when the researcher met students. Every data was recorded and considered important for analysis.

School X

Three classroom observations were conducted at this school. In every session, video recording was done throughout the lesson. Three subjects were involved in the observation – Civics, English and Mathematics. Below is a description of the context of the classroom.

Form III – a Civics Lesson

Students were seated in rows and in pairs. The teacher came in and greeted the class and then he allowed students to sit. He began the lesson by brainstorming about the previous lesson and called upon students to say what the lesson was all about. He introduced the lesson of the day as the revision class and wrote the question on the board "What are the effects of using drugs?". He then explained the meaning of keywords that make up the question – 'effects' and 'drugs'. In his introduction, the teacher used sign language and spoken language (Kiswahili) to clarify the concepts. After the introduction, he called upon students to explain what they knew about. Students highlighted the effects on the blackboard, and the teacher explained each effect by associating it to life examples (see red-dotted arrows in Fig. 6). Three communication modalities were used, for instance: questions and answers were written in English and explanations were given in Kiswahili and sign language.

The teacher moved around in front of students and called students to come in front to explain what they knew. He asked students whether they had knowledge on drugs, and students responded by saying Yes and No. Each student signed his/her way: others signed medicine – tabs, while the others signed injection, alcohol and cigarettes. The teacher signs 'injection' as the sign for drugs. Some students disagreed and argued among themselves. Eventually, they agreed 'smelling the last figure' as the sign for drugs. The movement of the teacher during the teaching process was right in front of the class where all students could easily see him (see the blue dotted arrow below).

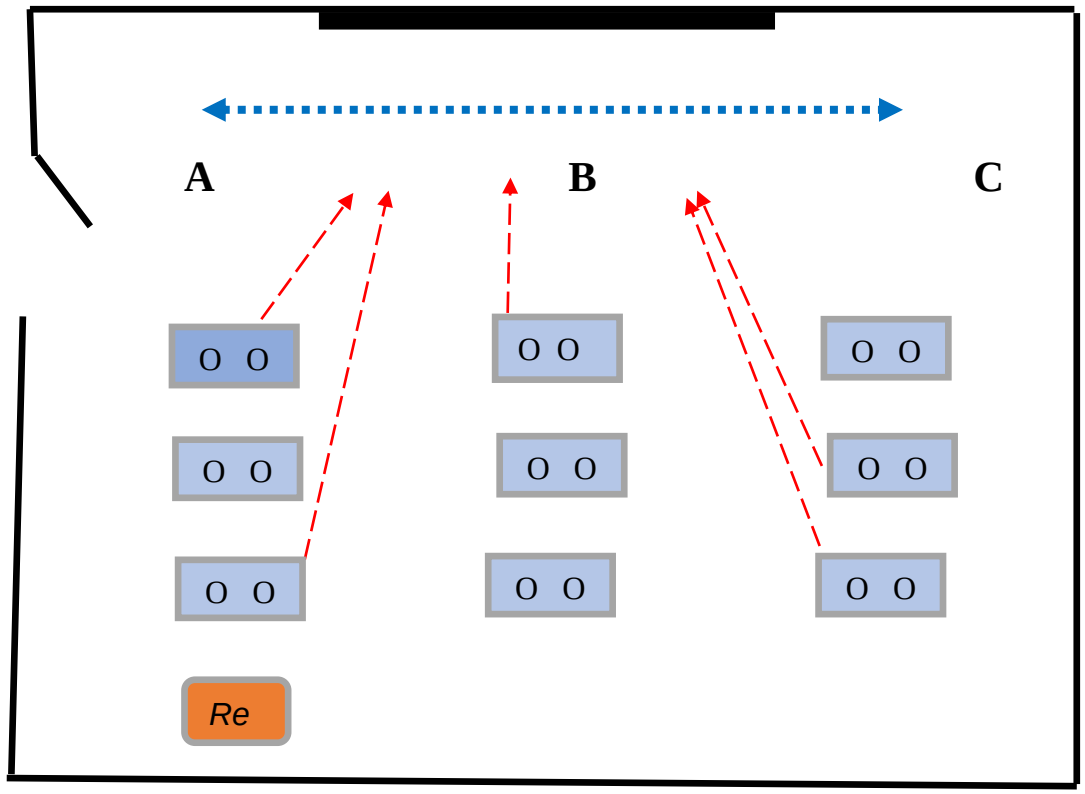


Figure 6: A classroom of Deaf students

Form III – an English Lesson

Observations were in the same class and the same sitting arrangement. The topic was ‘writing composition’ – a descriptive essay. The teacher started the lesson by greeting the class and allowed students to sit. He moved around to see if every student had an English exercise book and then introduced the lesson by writing it on the blackboard. Some students were copying in their exercise books. The teacher turned around to the students and asked them about the previous topic. Students were quiet while others started reading their exercise books. One student raised his hand and answers – “essay”.

The teachers looked around whether there was an additional answer – this time there was no answer. He spoke in English while using signs when clarifying the previous lesson. He wrote the key concepts on the blackboard and then started delivering the lesson by clarifying the concept ‘description’ – he used Kiswahili and signs. He gave an example of a tree to clarify his ideas and the students started explaining it by showing the features that make a tree. He put students in groups and supplied them with pictures. In groups, he tasked students to write essays concerning such pictures in their groups. Students discussed in groups as they wrote a

composition. The teacher moved around to supervise them while they were working in their groups (see blue-dotted arrows). Later, he asked about what students had discussed in groups, and several students from the groups responded to the question (see red-dotted arrows).

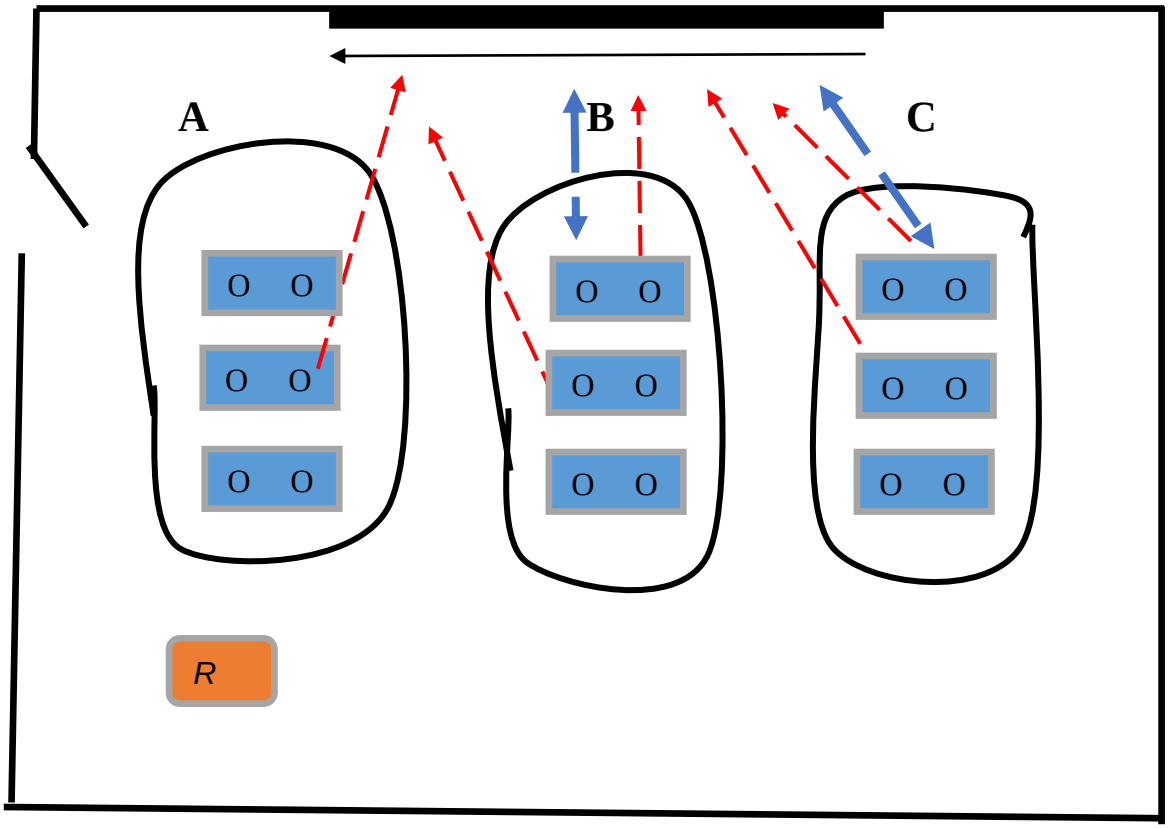


Figure 7: Deaf students in group discussion

Form IV B – Mathematics Lesson

It was an inclusive class with 2 Deaf students and 39 hearing students. The teacher entered the class and introduced the lesson by speaking. He then started writing the lesson on the blackboard. The teacher took 16 minutes to write questions and examples before he started explaining and working on them. However, the teacher used the English language throughout the lesson as the medium of instruction. Concurrently, the teacher used to question and answer technique to deliver his lesson. Throughout the lesson, hearing students were most active to respond to questions raised by the teacher. However, students responded in a chorus style. One Deaf student was seen copying everything that was written on the blackboard while the other was quite silent and at times sleepy. The teacher moved around the class through points A, B, and C (see dotted blue arrows) to supervise what students were doing.

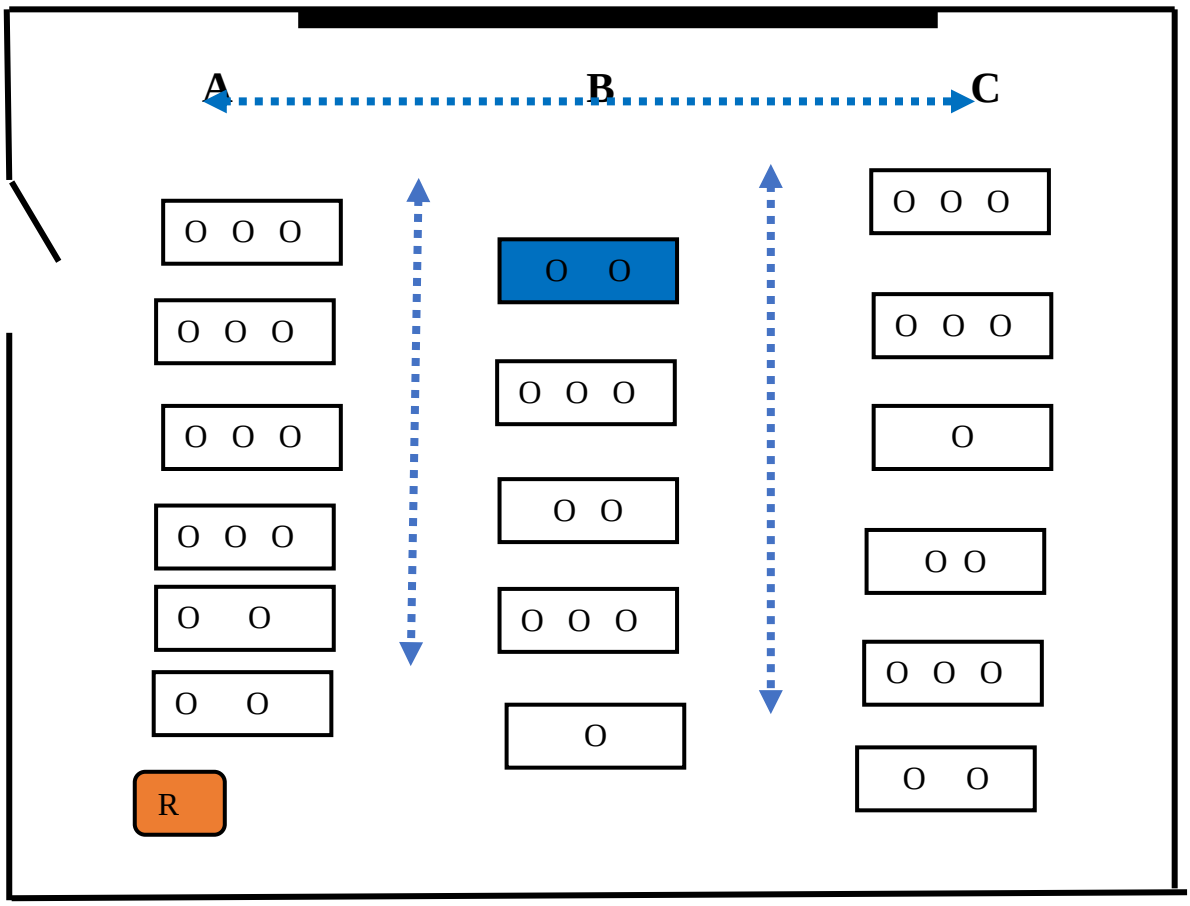


Figure 8: An inclusive class

At Parade

This parade was observed on 23rd September 2019 at 07:01 am – 07:20 am. Students lined up according to their classes, and Deaf students were in the frontlines of their respective classes. Announcements from teachers and prefects were made in spoken language (English). After a while, one teacher came and started to interpret for Deaf students. After the announcements, students were ordered to go to classes.

Lunchtime

During lunchtime, all the students moved to the dining hall. Students were eating together – sharing tables. Some students were seen communicating with Deaf students in sign language. Announcements were given in spoken language (English) and some hearing students were interpreting for the Deaf students.

During Manual Labour

During manual labour, students were working together in different areas – some in the dormitories while the others in the surroundings. Prefects were assisting to supervise the works. The majority of the observed communication modality between prefects and students was spoken Kiswahili. Similarly, a few teachers were seen communicating with Deaf students in spoken languages.

School Y

In school Y, three classroom observations were conducted. In each class, every learning behaviour was video recorded for further reference. In this school, lessons for three subjects – English, Geography and Mathematics were observed. In the description of the classroom context below, the narratives of the teaching process are presented. Along with classroom observations, students' interaction outside classes was observed. Three areas were of concern; parade, meal and manual labour sessions. Hence, narratives of the three areas of concern are given below after classroom observation.

Form III B – an English Lesson

This class comprised 46 hearing and 4 Deaf students who were placed in the front desks. The teacher came to class and started his lesson of the day. He took one hearing student to assume the duty of sign language interpretation (SLI). He wrote the topic on the blackboard and started introducing the topic in English language. He used the question-and-answers technique to teach his lesson. Through questions-and-answers, students were giving responses in a *chorus style*. However, several questions that were asked directly to students were responded to by hearing students. During the teaching process, the teacher kept moving around the classroom through points A, B, and C, and once in a while, he was moving through the back of the class (see dotted blue arrows in Fig. 9). Regarding the communication modality, the teacher used spoken language mostly while facing the blackboard. In rare cases, the teacher used mixed languages – English and Kiswahili. Below is a sketch of the classroom structure containing the teacher’s movements during his teaching.

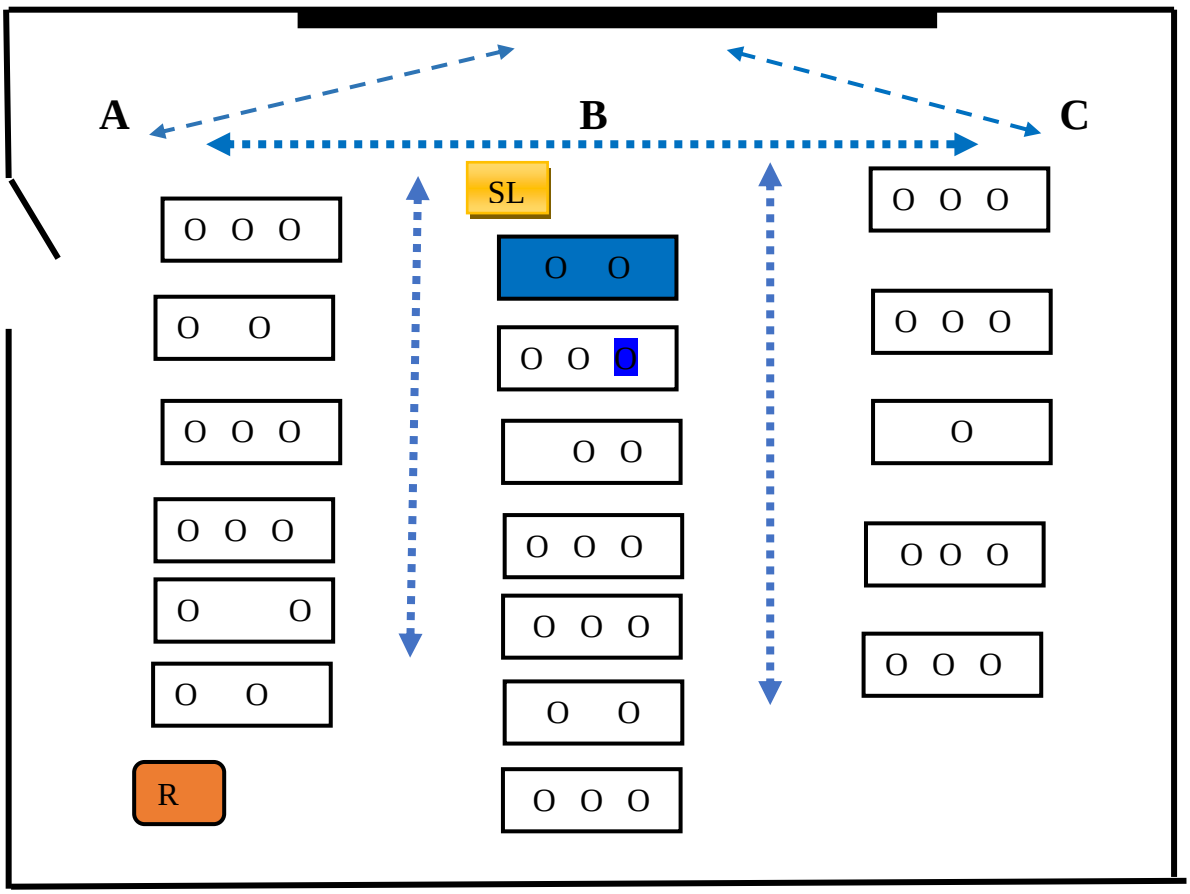


Figure 9: An inclusive class

Form III-A – a Geography Lesson

The class comprised 37 hearing and 3 Deaf students. The class was spacious and Deaf students were seated at the front desks in the class. The teacher in this class had an experience of 2 years of teaching Deaf students. The teacher came to class at 11:50 and called one hearing student to clean the blackboard. He introduced the day's topic in spoken Kiswahili and wrote it on the board. He started the topic by brainstorming about what students knowledge about rocks. Hearing students were most active in responding to questions while Deaf students were silently copying from what the teacher wrote on the blackboard. After a short brainstorming session, the teacher started delivering the lesson. In the entire teaching, the most used medium of instruction was a mixture of spoken Kiswahili and English. While he was teaching, he maintained his movement right in front of the class on point A (see dotted blue arrows). Most interestingly, the teacher focused on some specific students who were most active in class. Mostly, the teacher wrote on the chalkboard in explaining what he was saying. Sometimes in his teaching, the teacher used group questions of which students

responded to them in chorus style. Below, the classroom teaching-leaning process is diagrammatically contextualized.

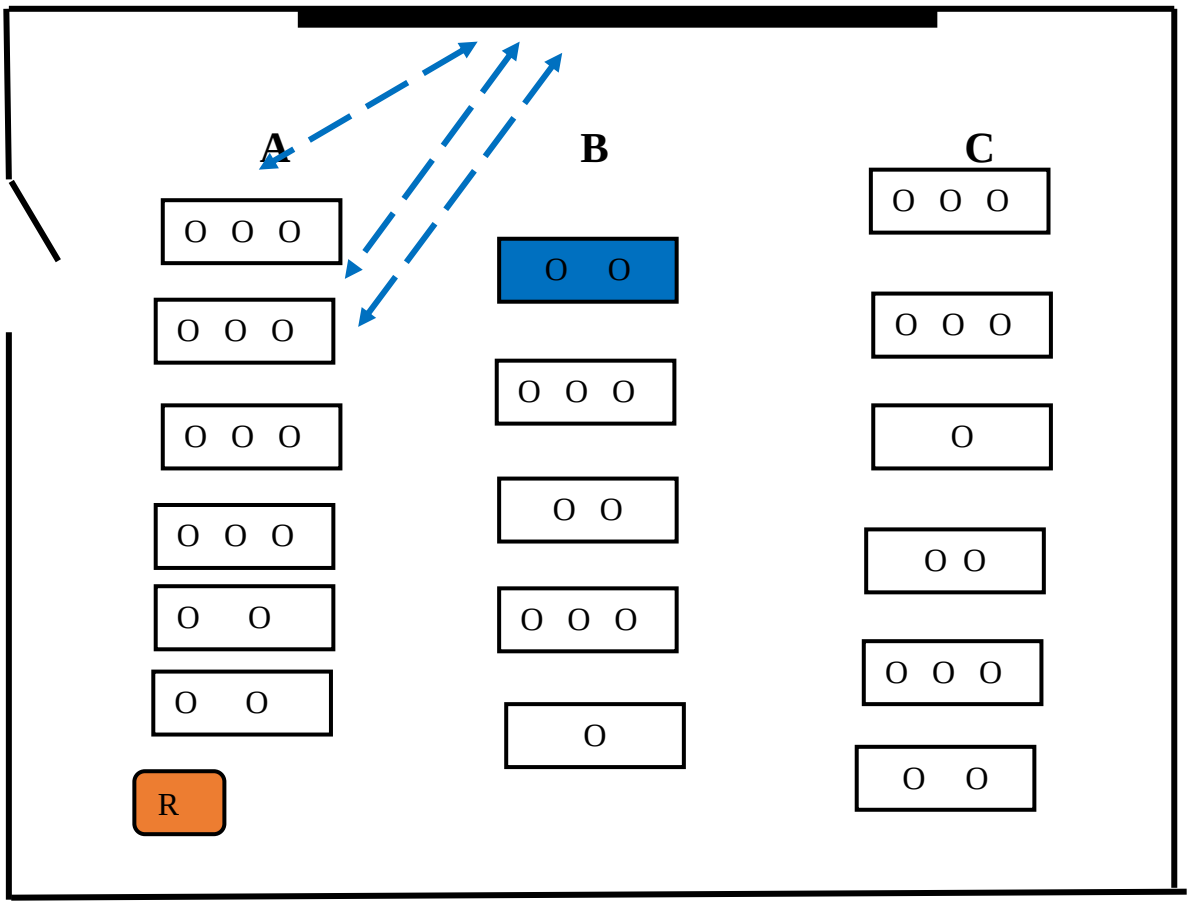


Figure 10: An inclusive class

Form IV B – a Mathematics Lesson

This class comprised 1 Deaf (see blue desk) student and 43 hearing students. The class was spacious and there was adequate space between the rows. The Deaf student was seated at the front desk of the first row. The teacher entered the class, after the greeting, he ordered all students to remain standing. While students were standing, he started asking questions about the past lesson. Only students who answered the questions were allowed to take their seats. It took around 15 minutes before he allowed all students to have their seats and start the new lesson. He started by writing the topic on the blackboard. In his teaching process, the teacher used the chalkboard and questions and answers techniques to deliver his lesson. The main modality of communication was spoken languages – a mixture of English and Kiswahili – in which, English was mostly used. In all the questions he asked in class, hearing students were the most active ones who responded to them. Throughout the lesson, the Deaf student was

seen copying the notes from the blackboard, and in a few cases, she asked the neighbouring hearing student to assist her. The teacher maintained his position at point B while moving around the same position (see dotted blue arrows in Fig. 11). He used much of his teaching to work out examples on the blackboard while students regularly used *chorus* answers to respond to the teacher's questions. The teacher provided students with a task to work on individually. Students took about 10 minutes to perform the task and worked on a specific task on the blackboard. At the end of the lesson, he concluded his lesson and left the class.

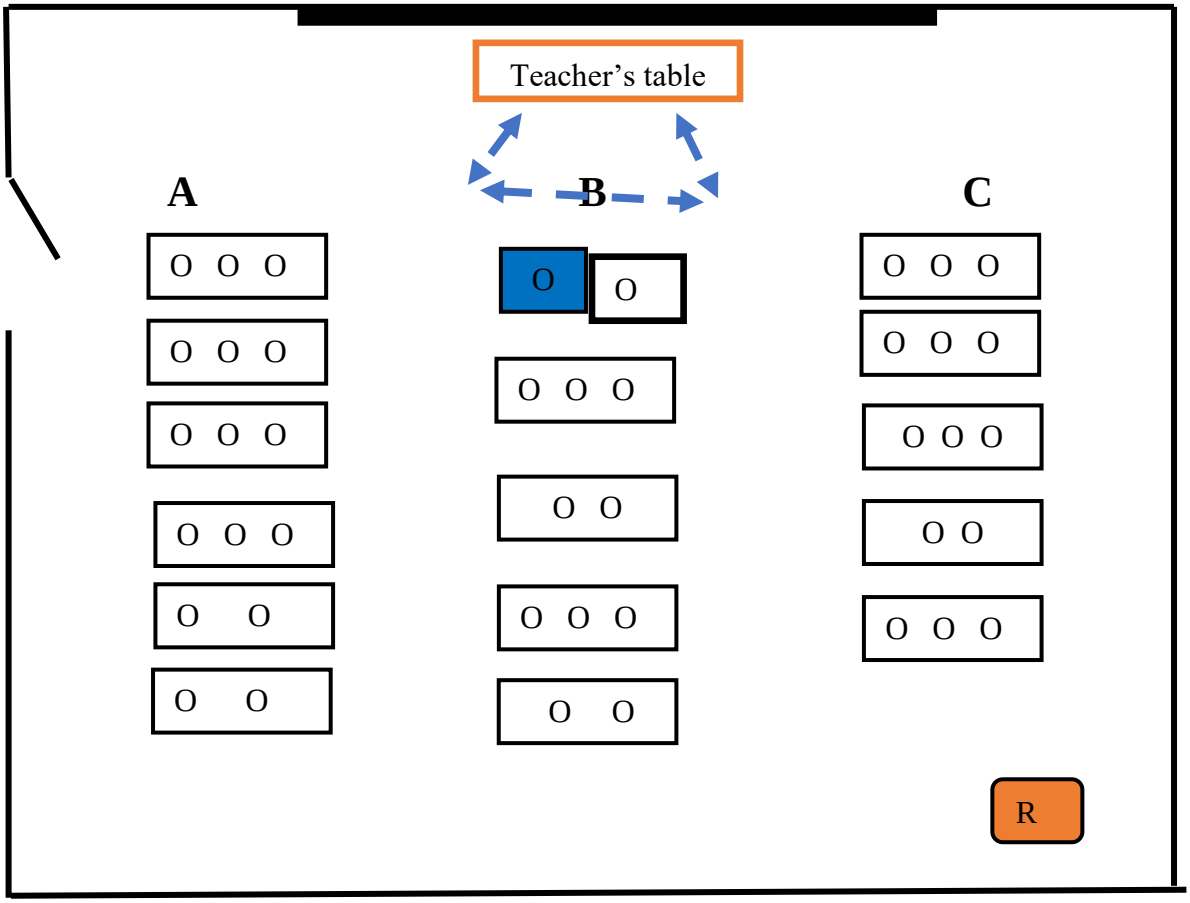


Figure 11: An inclusive class

Parade

This observation was conducted on 16/5/2019 during the morning parade at 07:00 - 07:20 am. Students were arranged in lines depending on their levels of education. All Deaf students were standing in the frontline – a few meters from the flag post – as indicated in Figure 12. Students sang the national anthem and the school song in voice and signs simultaneously. During this morning parade, two hearing students were seen assuming the role of sign language interpreters. All announcements were given in spoken language (English).

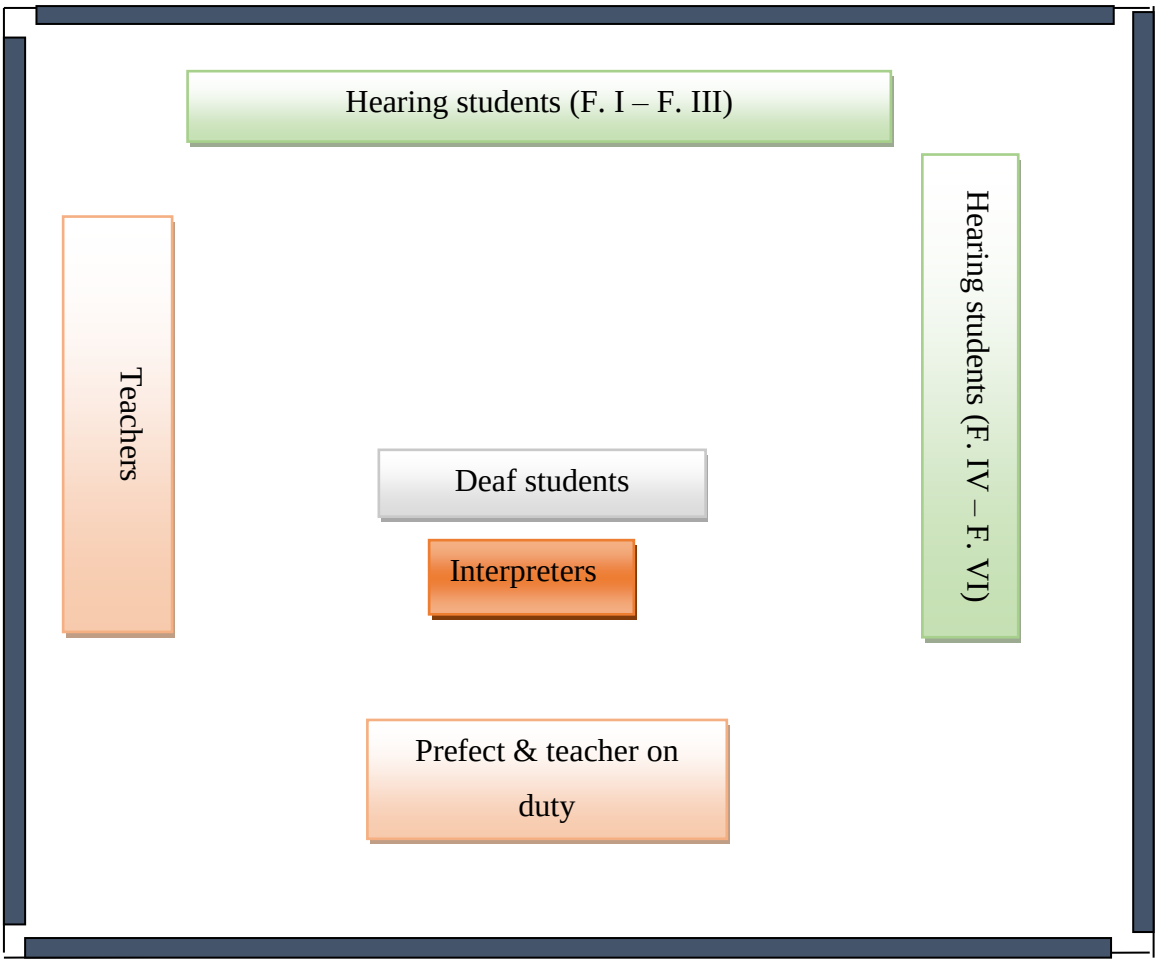


Figure 12: Parade context

Manual Labour

This observation was conducted on 30/5/2019 from 15:30-16:17 during the performance of extra-curriculum activities. Students were involved in cleaning the block which was demolished. Teachers were supervising the work and often they gave instructions in spoken language(s). Some Deaf students were seen in small groups working together with hearing students while other Deaf students were in groups with hearing students. Some hearing students were signing with Deaf students while they were working. After about 40 minutes of working, all students dispersed to their dormitories for other routines.

Lunchtime

The observation was conducted on 29/5/2019 from 14:30 – 15:30 when students went for their lunch. All the students were eating together in one dining hall. Students had their food and went back to their tables to eat. Students were seen making stories and interacting ordinarily while prefects were giving instructions in spoken language(s). Some hearing

students who shared tables with Deaf students were seen assisting to interpret the announcement in sign language.

School Z

In this school, several observations were conducted in classroom teaching and around the school premises. With classroom teaching and learning, three observations were conducted – History, Physics and English. Below, is the narrative description of each classroom context and lesson development. Besides classroom observation, three more observations were conducted during parade, lunch, and manual labour sessions. These three observations are as well presented in narratives after classroom observations.

Form III – a Physics Lesson

This was a general class with 22 Deaf students. Students from different streams joined this class. The desks were in rows. There was a big space between the teacher's table and students' desks. The teacher had been waiting for students to come and settle before he started teaching. The teacher started the lesson at 12:26 by writing the topic on the blackboard in the English language and then started speaking to students about the previous lesson. He used spoken Kiswahili mostly and signs/fingerspelling rarely to brainstorm about the previous lesson.

Students who were in the front rows were discussing in pairs as the teacher explained. In the context of explaining a concept, students were signing respective concepts that the teacher failed to give its sign. The teacher explained the lesson in Kiswahili and most of the ideas were being written on the blackboard. He wrote the notes while the students were copying them in the exercise books.

The teacher breaks for 10 minutes

The lesson resumed at 13:04 and students came back to class. The teacher wrote the revision questions on the blackboard. The questions were written in the English language and short sentences. He used spoken language (Kiswahili) to instruct what students had to do with the questions that were written on the blackboard. The teacher used students' exercise books for revision questions and tasks. He kept moving from left to right while explaining the task. He

insisted that students should discuss amongst themselves in pairs the problem on the blackboard.

Some students were not discussing in groups as instructed by the teacher. Some students demonstrated to be passive in such that they sat back in their chairs looking at what other students were doing. The most active students were those who sat in the front chairs. Among them, six students were regularly volunteering to go in front and work their solutions on the blackboard. Four students who were at the back were silent throughout the lesson. 11 students were discussing in groups but did not work on the blackboard.

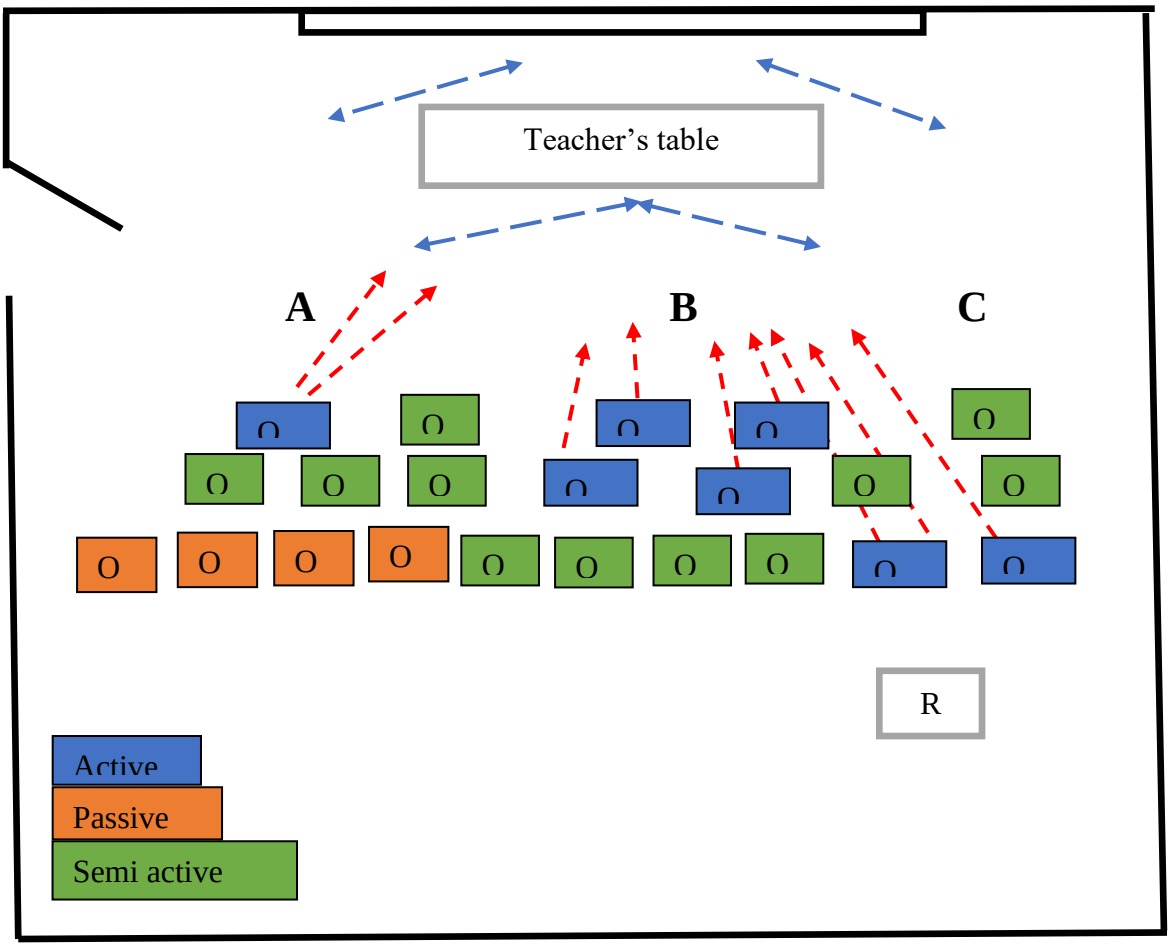


Figure 13: Class of the Deaf

Form III C – an English Lesson

The class had 7 students seated in a semi-circle (see blue desks). In this class, the teacher was Deaf, but she could speak. She began the lesson by brainstorming about the previous lesson. Students were responding to the teacher's questions. After brainstorming, the teacher wrote the topic on the blackboard 'Poetry – Characterization'. She then introduced the poem to

students. She asked whether students knew the difference between a poem and a novel. There was a debate among students. Students were arguing among themselves on the difference between the two concepts asked by the teacher. The teacher opened the book and showed them what the poem is and how it looks like. She explained difficult concepts by writing their meanings on the blackboard. Students shared the concepts and discussed them among themselves.

The teacher frequently used spoken language (Kiswahili) and signing when explaining what students needed to do. She put students into two groups of 3 and 4 students and provided them with poems to read. She told them to read the poem and explain the concept of 'characterization' in their exercise books. After providing students with the task, she sat back in her chair and waited for some time while students were reading the poem, discussing, and writing in their books. She exited the class at 11:40 and left students with the task she had given them– which they should submit to her at the end of the lesson.

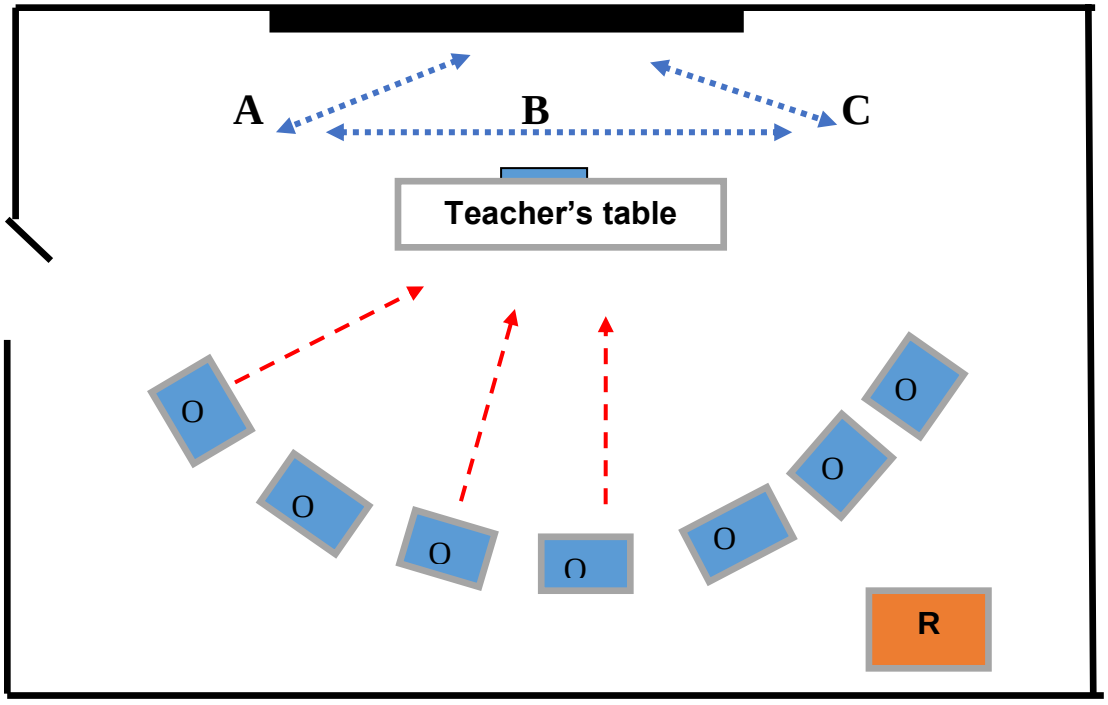


Figure 14: A class of Deaf students

Form IVA – a History Lesson

This class consisted of 9 Deaf students. The class was well furnished with ICT facilities (overhead projectors). The same class functioned as the teacher's office. So, other students

were frequently coming in and going out. Essentially, this room was a laboratory and the teacher decided to shift his class to this laboratory to use the ICT facilities available.

Regarding communication and teaching, the teacher frequently used sign language in the entire lesson. He instructed in Kiswahili language and sign language for students who would not mouth. Similarly, he wrote most of the concepts on the chalkboard and explained them afterward. He consistently provided an example from actual life experiences while maintaining his movements in class (see blue dotted arrows in Fig. 15). He used the overhead projector to display the slides he prepared. The slides were full of words and some pictures. Regarding new concepts, he allowed students to form and agree upon the missing signs in his subject (e.g. *Wanyamwezi* 'people of the moon'). Students were participating in the lesson by responding to the questions that were raised by the teacher. The main communication modality was a mixture of written English and Swahili supported by sign language. Occasionally, the teacher asked questions to specific students some of whom responded to the same (see red dotted arrows).

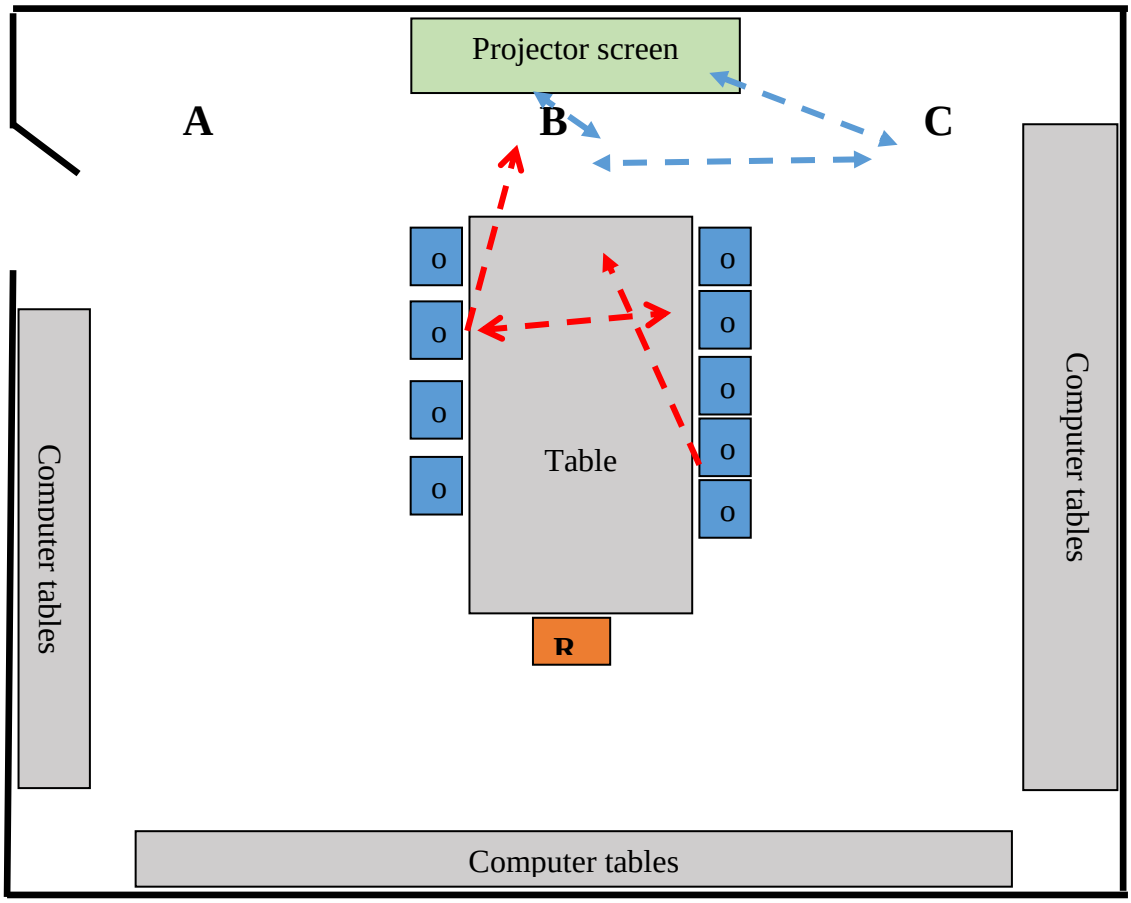


Figure 15: A class of Deaf students

Parade

This observation was done on 24/7/2020 from 07:10 am to 07:26 am. Students were arranged according to their education levels. Announcements were provided in spoken language (mixture of English and Kiswahili) and one teacher assumed the role of sign language interpreter for Deaf students and Deaf teachers.

Lunchtime

During lunchtime, all the students were eating together in the dining hall. Helpers and the teacher-on-duty were using sign language and mouthing during announcements and assistance to Deaf students.

Extra curriculum

On extra-curricular activities, teachers were supervising students and instructing them by using spoken language and signs. Teachers were chatting and joking with Deaf students as they worked together. The school compound was big, and students were scattered everywhere and each performing his/her task.

6.3.4 Documentary Review

Through documentary analysis, two main documents were scrutinized: school general programmes and examination results. Along with these documents, two national policy documents were consulted to assess the extent to which such documents were reflected in the two earlier main documents. Hence, the following two categories were the focus of the review.

6.3.4.1 Deaf Students' Learning Accommodation

With regard to the students' learning accommodation, the study focused on the responsiveness of respective documents to Deaf students. Data from each of the documents have been presented differently in this section.

a. School Programmes

The three schools had similar school programmes that ran from 7:30 am to 2:50 pm (see Figure 16). All the lessons were scheduled for either 40 or 80 minutes depending on the number of lesson hours per week as prescribed by the national education curriculum. Therefore, even though school Z was for Deaf students, it was obliged to adhere to the prescribed school curriculum.

Additionally, school programmes were designed in such a way that all students had some space for private studies which commenced from 5 pm and beyond. This was the time when most of the activities of the school programme had already been accomplished. Before that time, students could hardly have time for their private studies – this was across all the three schools.

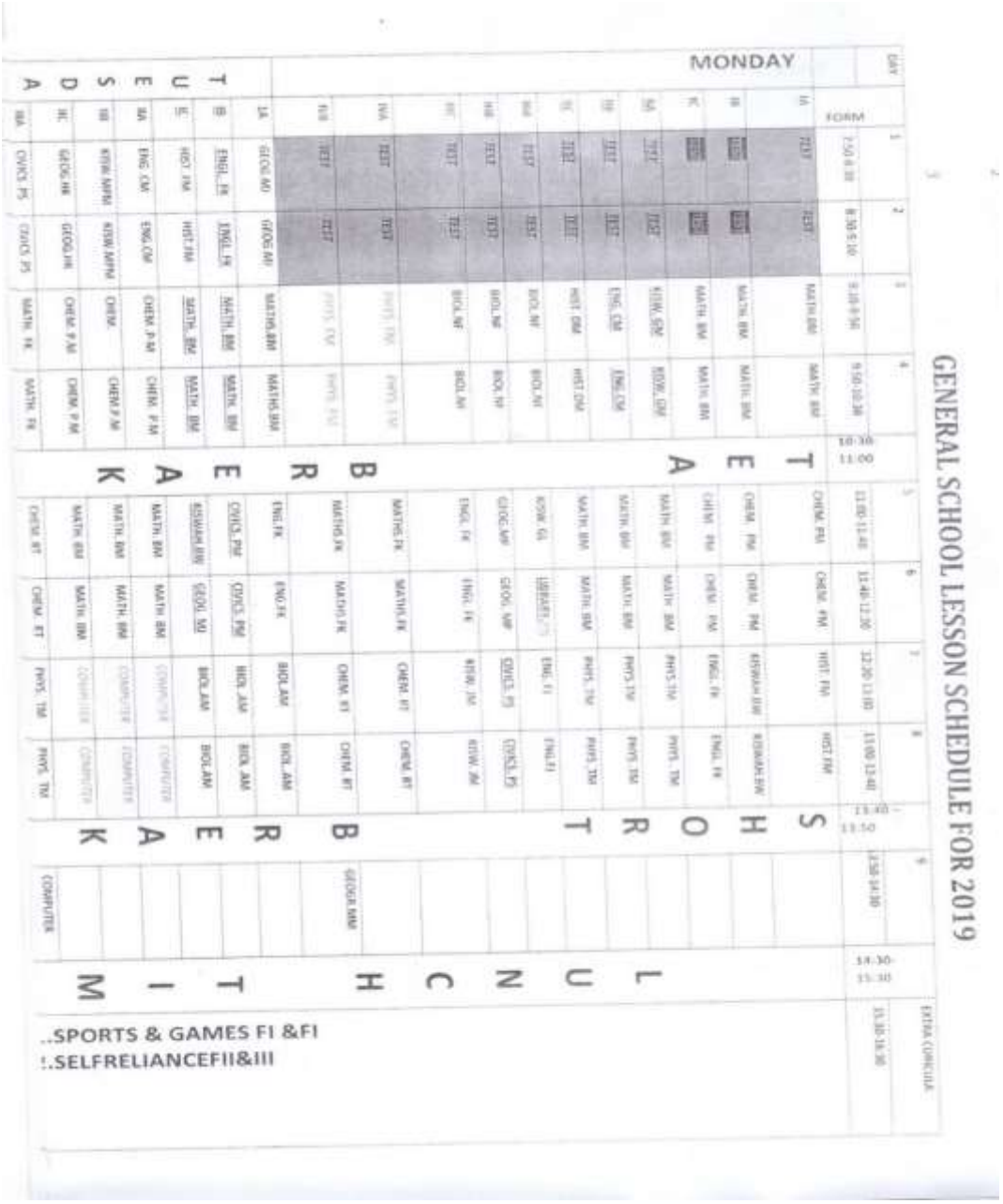


Figure 16: A sample of the school programme of school Z

b. Teaching and Assessments

On teaching and assessments, the study findings revealed that teachers' preparation of their lessons followed the regular methodologies of teaching the class. However, in-class practice, in a few incidences, teachers would adjust their lessons to suit the nature of the class. But in most cases, teachers were focusing on the subject matter of their lesson topics; hence, they adopted the appropriate teaching methodologies that would serve their wishes.

With regard to assessment, students' evaluation criteria were essential to these sections. It was revealed that Deaf students were subjected to regular examinations and tests. The prescribed general examination format was the determining phenomena for examinations set up. Therefore, Deaf students were required to sit in the same examination paper as hearing students – of course regardless of their communication modality. It was further learned that, during examinations, instructions were usually given in English except for when students were doing either Kiswahili or other languages in which instructions were given in such languages. Yet, the spoken modality was key throughout the instructions.

6.3.4.2 Deaf Students' Academic Progress

This section consists of the analysis of the academic progress of Deaf students in secondary education in Tanzania. In the first place, it captures the enrolment of Deaf students in Form Two[13] in the national examinations and later figures out the number of Deaf students who completed Form four[14] in their respective sequence. Class(es) of Form One and Three were skipped in the analysis because the two levels were not subjected to the national assessment(s). On the other hand, class(es) of Form Two and Form Four were involved in the analysis by capturing the national examination results with a specific focus on Deaf students. In so doing, consecutive five (5) years were involved in the analysis. With the Deaf students' enrolment in secondary education, this study analysed the trend of enrolment within the framework of five (5) years – 2015-2019, and the findings are presented in the next figures. Figure 17 below captures the enrolment of Deaf students at School X.

[13] Equivalent to grade 9
[14] Equivalent to grade 12

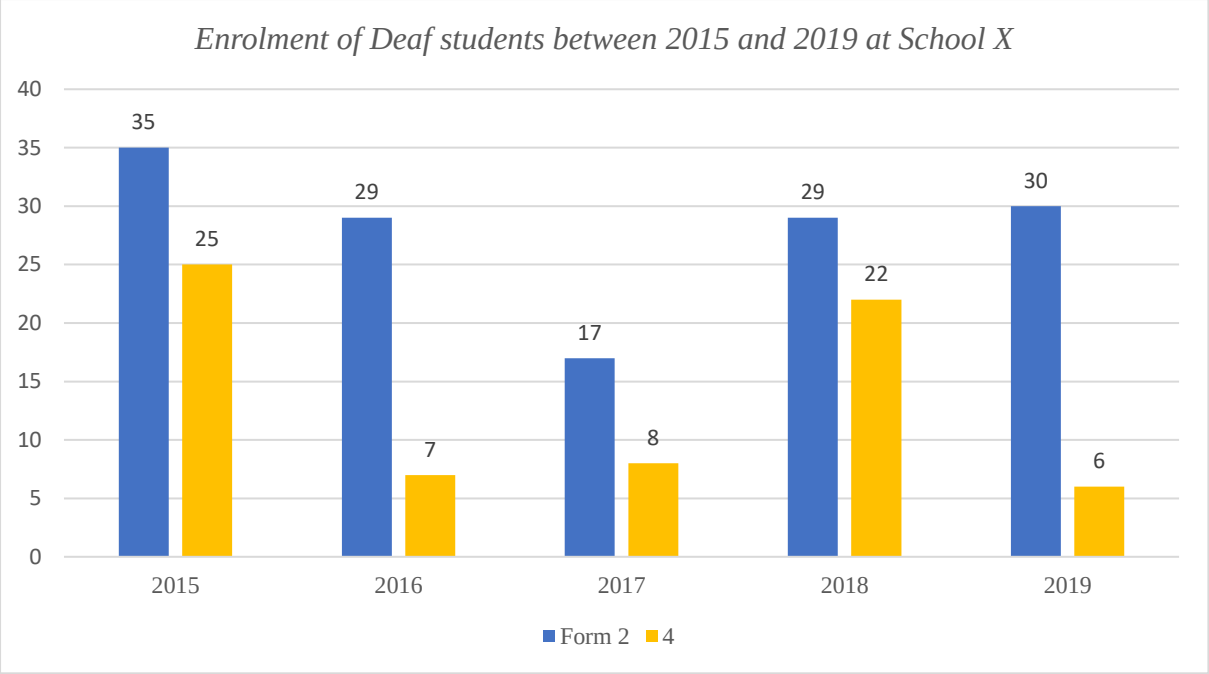


Figure 17: Enrolment of Deaf students

Figure 17 has indicated the prevalence of a big difference in numbers of Deaf students' enrolment between Form Two and Form Four throughout five years. This study has demonstrated that the number of Deaf students was relatively high in Form Two whilst the number drastically dropped when students reached Form Four. For example, Deaf students who were enrolled in Form Two in 2015 were 35 whilst those who finished Form Four in 2017 were 8. This implies that 77.2% of Deaf students did not proceed to Form Four in the respective duration.

However, in 2016 the number of Deaf students enrolled in Form Two different from the number of Deaf students who were released in Form Four in 2018. The data shows that Deaf students who were enrolled in Form Two in 2016 were 29 while those who were registered in Form Four in 2018 were 22. In this regard, only 7 students equivalent to 24% of all Deaf students who were registered in Form Two in the respective year did not manage to finish their secondary education cycle. The last caption is made on Deaf students' registration between 2017 and 2019. In such a duration, Deaf students who were registered in Form two in 2017 were 17 while those who managed to be registered to Form four in 2019 were 6 students. That is, 11 Deaf students out of 17, equivalent to 64.7%, did not manage to make it to Form Four.

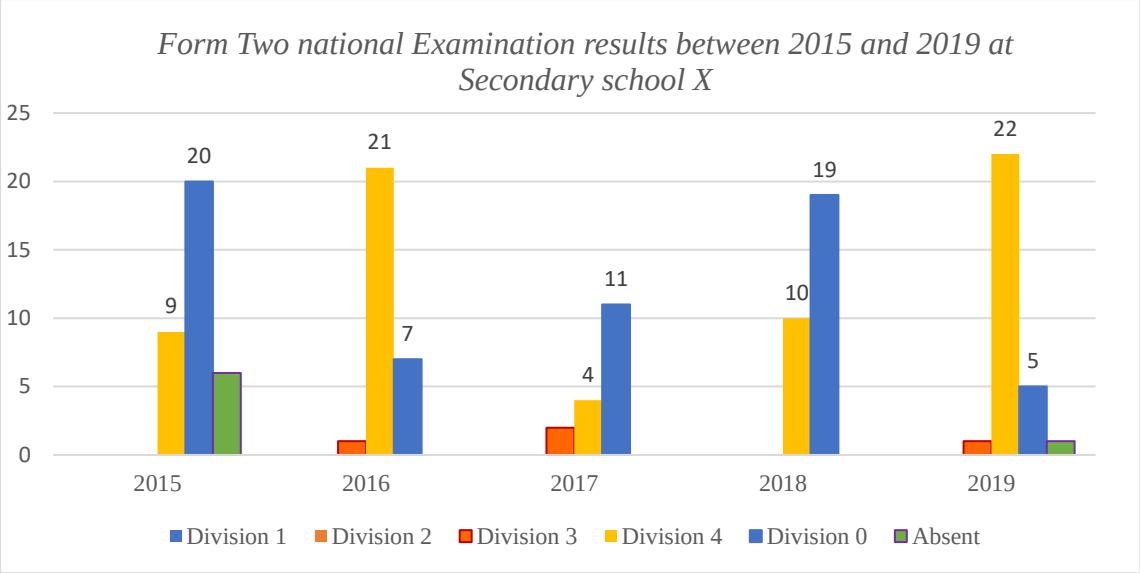


Figure 18: Deaf students' examination results

Figure 18 above displays the progression of academic achievement of Deaf students between 2015 and 2019. As it indicates, there has been a prevalence of poor academic achievements among Deaf students for the last five years. The trend of Deaf students to get division zero was, therefore, higher throughout the five years of study. Deaf students had not been attaining high passes (division 1 to 3) for the last five years as compared to hearing peers. Figure 19 captures the registration of Deaf students in respective academic grades.

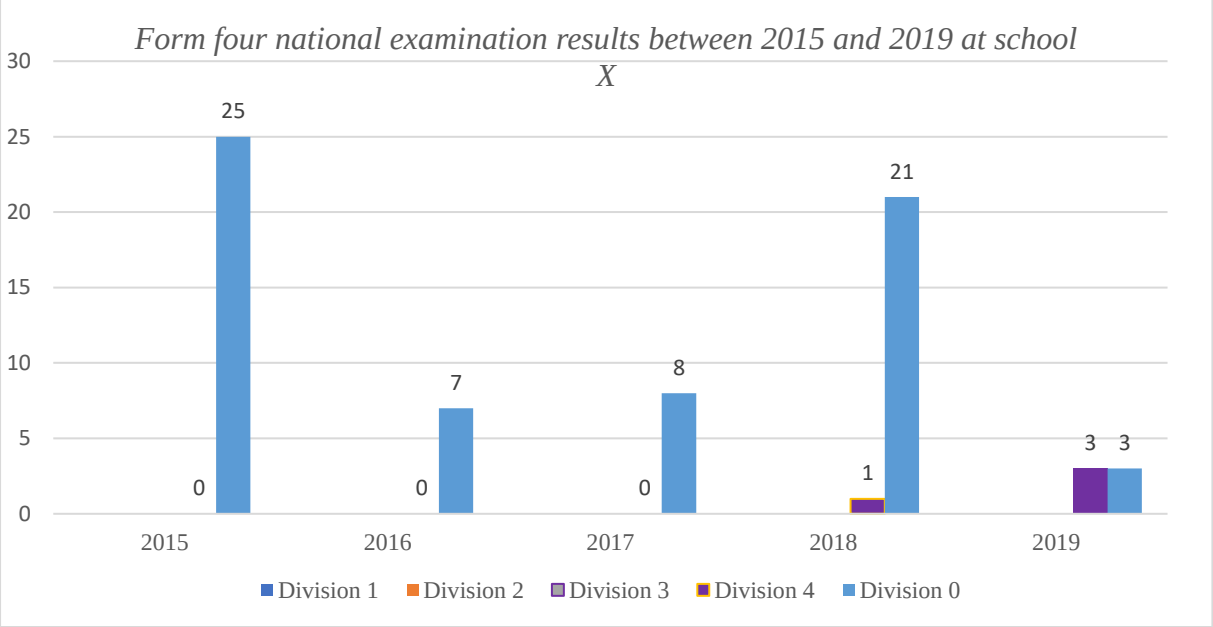


Figure 19: Deaf students examination results

The data captured in Figure 19 indicates that Deaf students who were admitted to Form Four within five years of analysis were 67 and only four students (5.8%) got division 4 in 2018 and 2019. Hence, 63 students (98.4%) got division zero in their Form Four National Examinations between 2015 and 2019.

Similarly, hearing students at school X had been attaining higher grades in national examinations compared to their Deaf peers. The available statistical evidence shows that Deaf students in school X had been attaining poor grades consistently in five years. The graph below indicates the trend of form four examination results between 2015 and 2019.

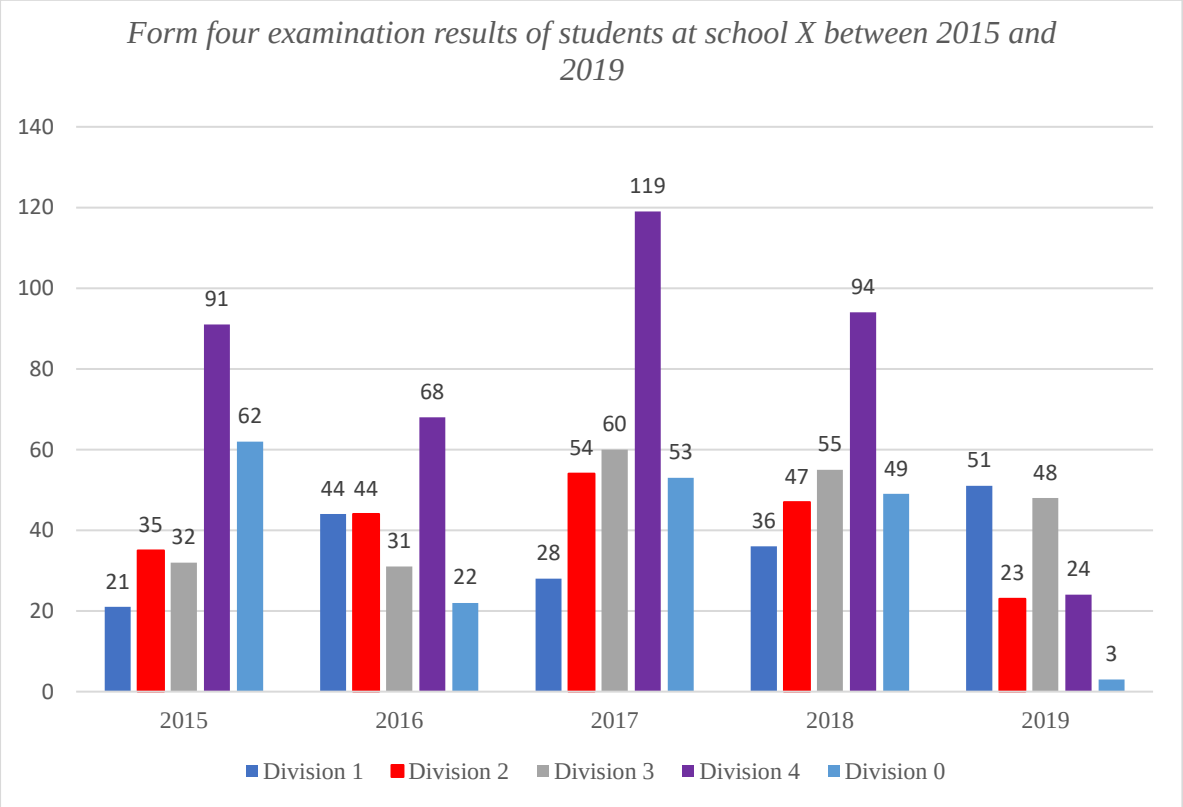


Figure 20: Examination results of all students

Figure 20 indicates that of 149 students, only Deaf students (3) got division zero in 2019. Similarly, in the five years, there was no any Deaf student who scored division 1, 2, or 3. However, only 4 Deaf students got division 4 in 2018 and 2019. For the rest of the years, Deaf students scored division zero (0).

In school Y, statistics of enrolment between Form two and Form Four in five years have not shown any significant difference from school X.

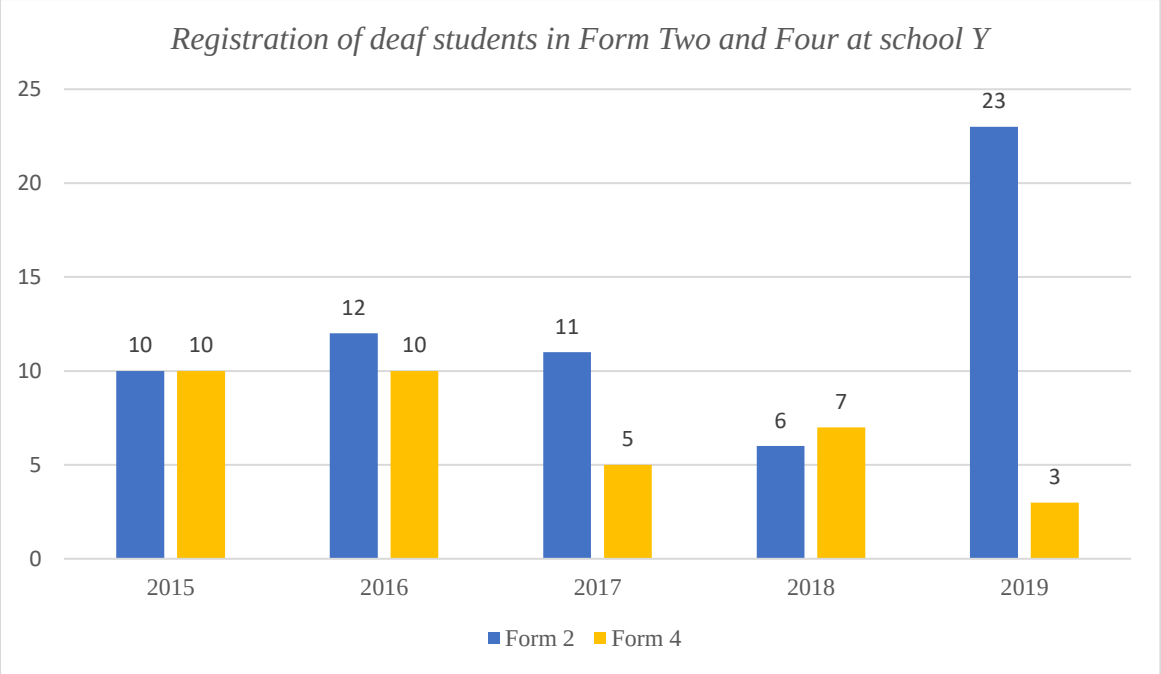


Figure 21: Students' enrolment

Statistics in Figure 21 indicate the regressive enrolment of Deaf students between Form Two and Form Four. As evidenced above, the number of Deaf students registered in Form Two in 2015, 2016 and 2017 dropped by about 50% in Form Four in 2017, 2018 and 2019. In line with the progression of Deaf students in the academic cycle, Figure 22 indicates the trend of academic attainments of Deaf students at school Y between 2015 and 2019.

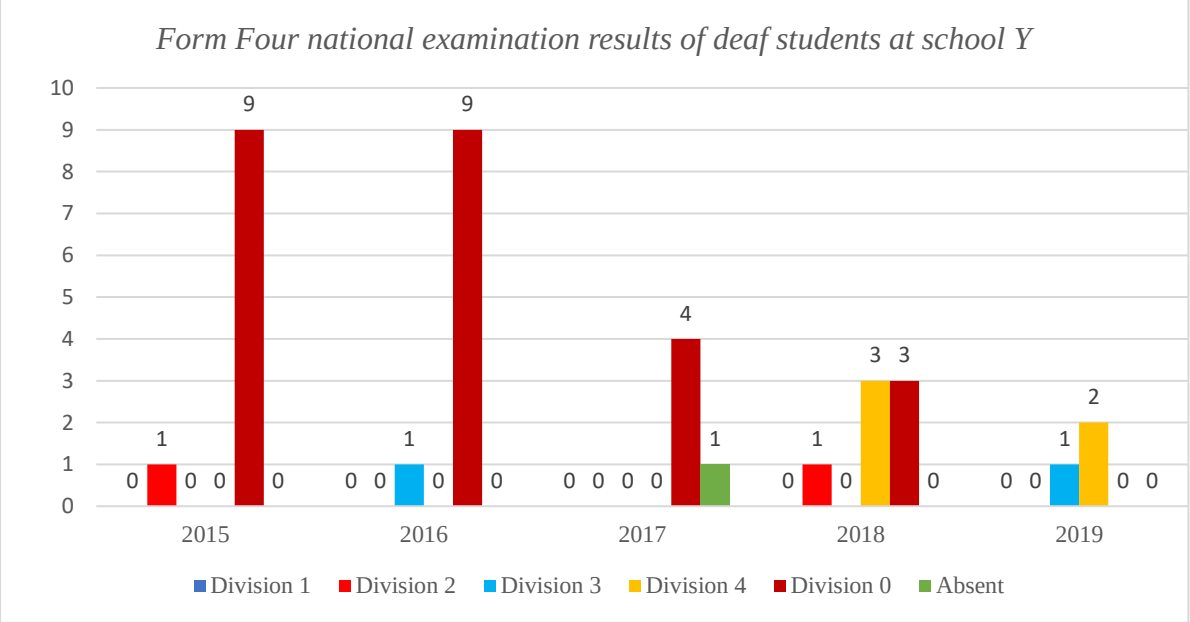


Figure 22: Deaf students' examination results

Figure 22 captures the academic achievement of Deaf students at school Y between 2015 and 2019. Unlike hearing students (see Figure 23), Deaf students recorded lower passes across the years. For example, only two Deaf students were registered to have achieved division two in 2015 and 2019. On the other hand, the predominance of scoring division zero was consistently witnessed in the first four years whilst in 2019 no division zero was recorded.

Similarly, few Deaf students were registered to have attained division four. For example, only five students got division four in 2018 and 2019. Interestingly, the discouraging attainment of division zero among Deaf students was noted along with the decrease of enrolment since 2015. Comparatively, hearing students were found to perform far better in their final examinations as compared to Deaf students. Figure 23 captures the reality which demonstrates that Deaf students were academically overshadowed by hearing students in academic progress.

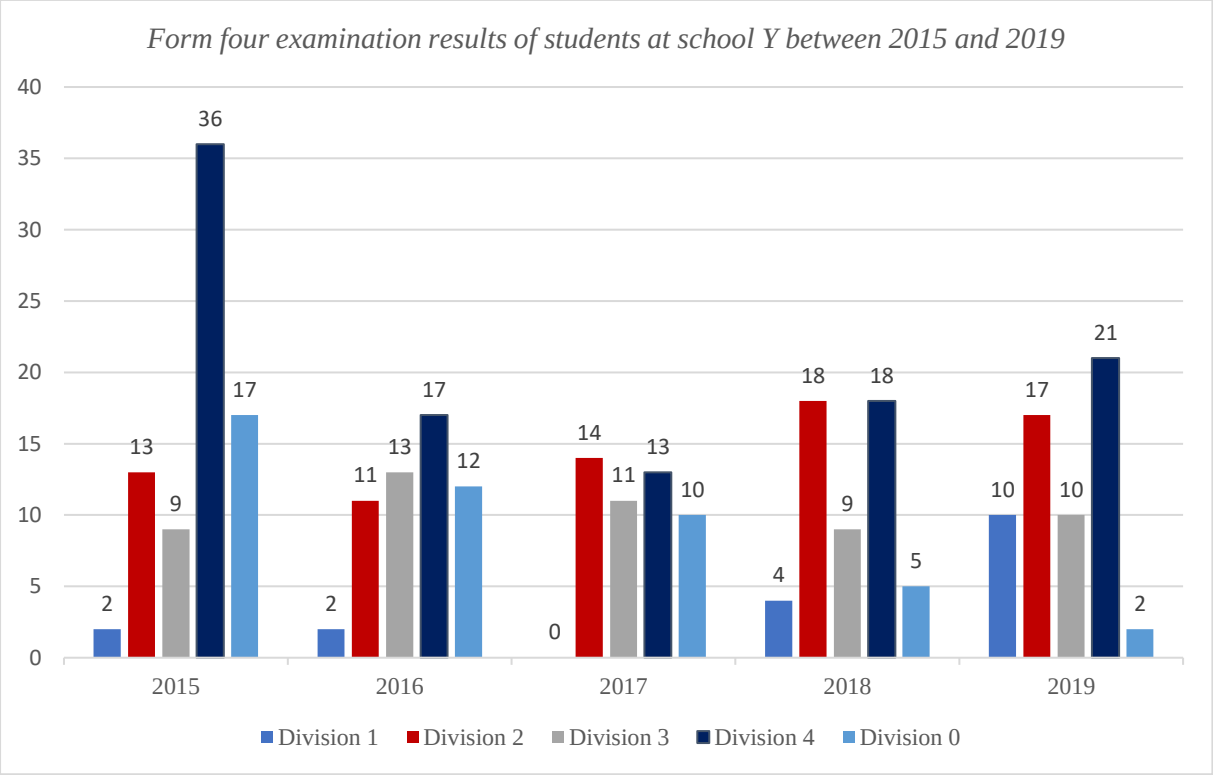


Figure 23: General examination results

Figure 23 captures the comparative academic trend of students at school Y between 2015 and 2019. Unlike Deaf students, it was registered that hearing students scored higher academic

grades. For example, in 2018, students who sat for Form Four national examinations were 54 and out of whom, five students equivalent to 9.2% attained division 0. Comparatively, in the same year, three Deaf students attained division 0 at the same school. With these statistics, 3 students out of 5 who attained division 0 in 2018 were Deaf students. Thus, 60% of students who attained division 0 at the same school were Deaf students whilst, hearing students constitute 40% of all students who failed in the national examinations. These statistics are similar to those of 2016 whereby 9 out of 12 Deaf students scored division 0.

Similarly, Figure 24 captures the number of Deaf students registered in form Two between 2015 and 2019 and it is presented concurrently with the previous Figure 23 to understand the dropout rate of Deaf students with the said framework. Connected to this trend, the dropout rate is narrated with its implication on the examination result.

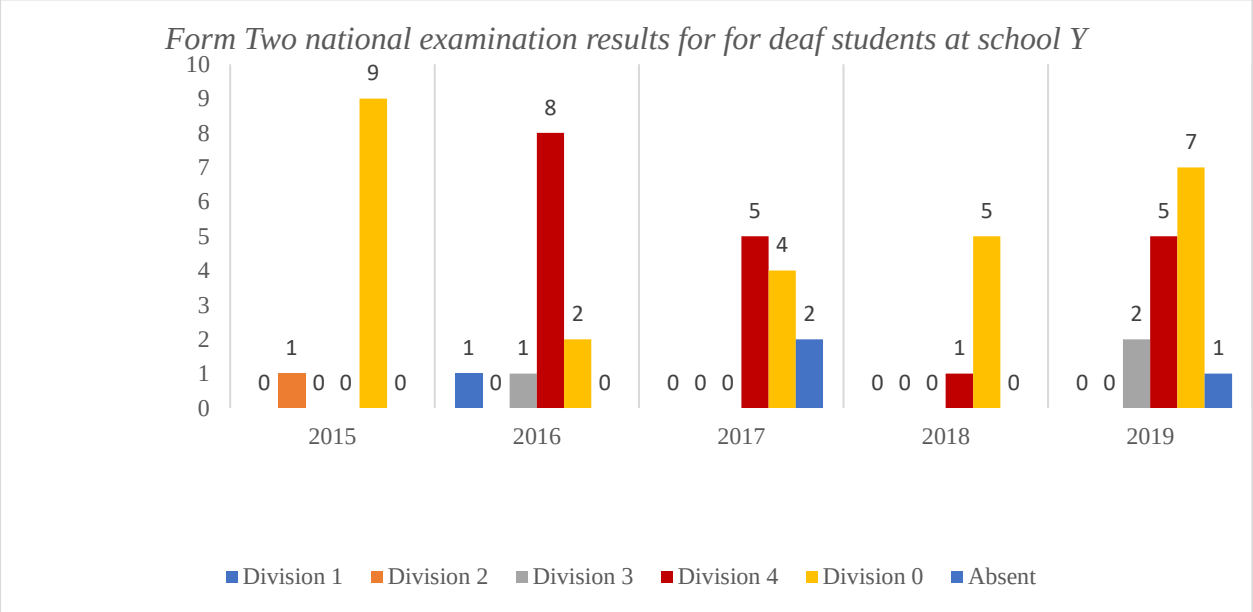


Figure 24: Deaf students' examination results

From the data in Figure 24, it is revealed that most Deaf students similarly scored lower grades in their national examination. For example, the information captured from the graph implies that division four and division 0 were the dominant grades among Deaf students since 2015. That is, the number of Deaf students registered to Form Two between 2015 and 2019 was 54, out of whom five (5) students equivalent to 9.2% were able to attain upper divisions (division 1, 2, and 3), whilst 90.8% were attained lower grades (division 4 and 0). On the other hand, 19 Deaf students, equivalent to 35.2% of all Deaf students who sat for the national examinations within the given framework of analysis were able to attain division 4.

These statistics imply that 22 Deaf students, equal to 40.7% were able to make it to Form Four while the rest 59.3% either repeated the class or dropped out of formal education.

Correspondingly, Deaf students at school Z appeared to have navigated lower academic grades for the past five years. As stated earlier, school Z consisted of Deaf students only and a staff team that was composed of hearing and Deaf persons. Figure 25 indicates the trend of academic achievement of Deaf students between 2015 and 2019.

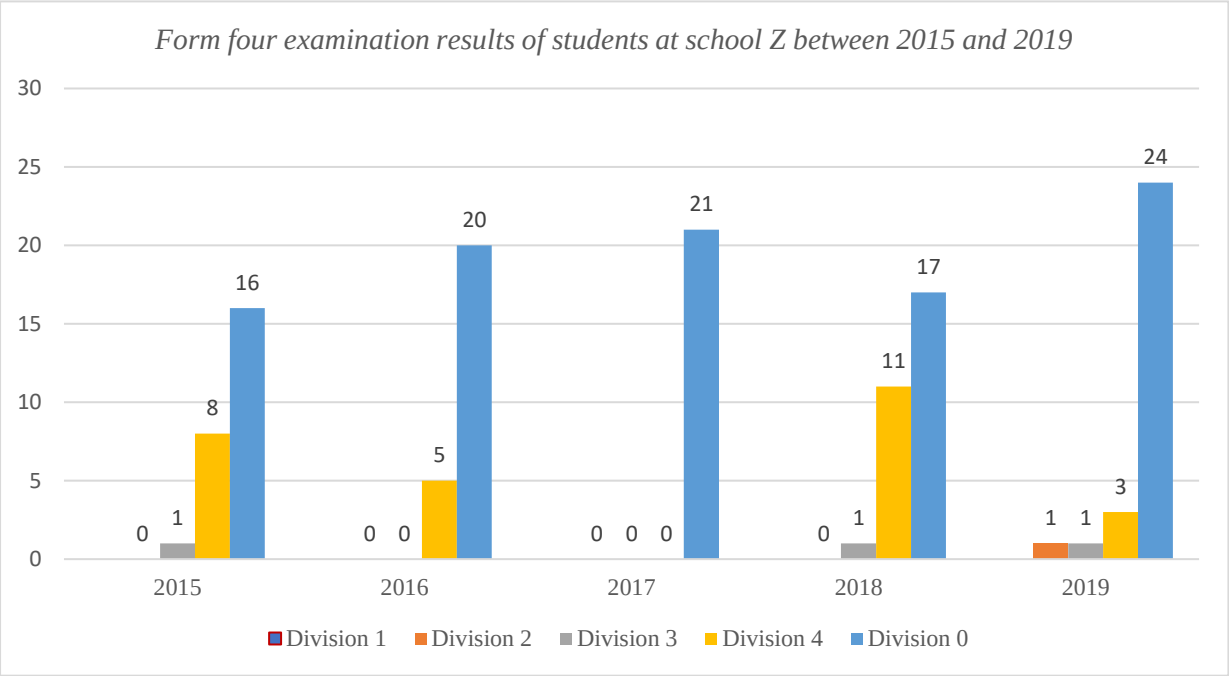


Figure 25: Deaf students' examination results

Reflecting Figure 25 above, it is clear that Deaf students consistently attained lower grades in their national examinations. Like Deaf students in inclusive schools with hearing students, in inclusive school Z with only Deaf students who had been attaining division 0 and division 4 throughout. From the statistics above, out of 127 Deaf students who sat for the national examinations from 2015 to 2019, only three students equal to 2.3% were able to get division 3. The rest, 19 students attained division 4, whilst 98 students got division 0 within five years.

Focusing on the dropout rate, Figure 26 compares the enrolment of Deaf students between Form Two and Form Four at school Z within four years.

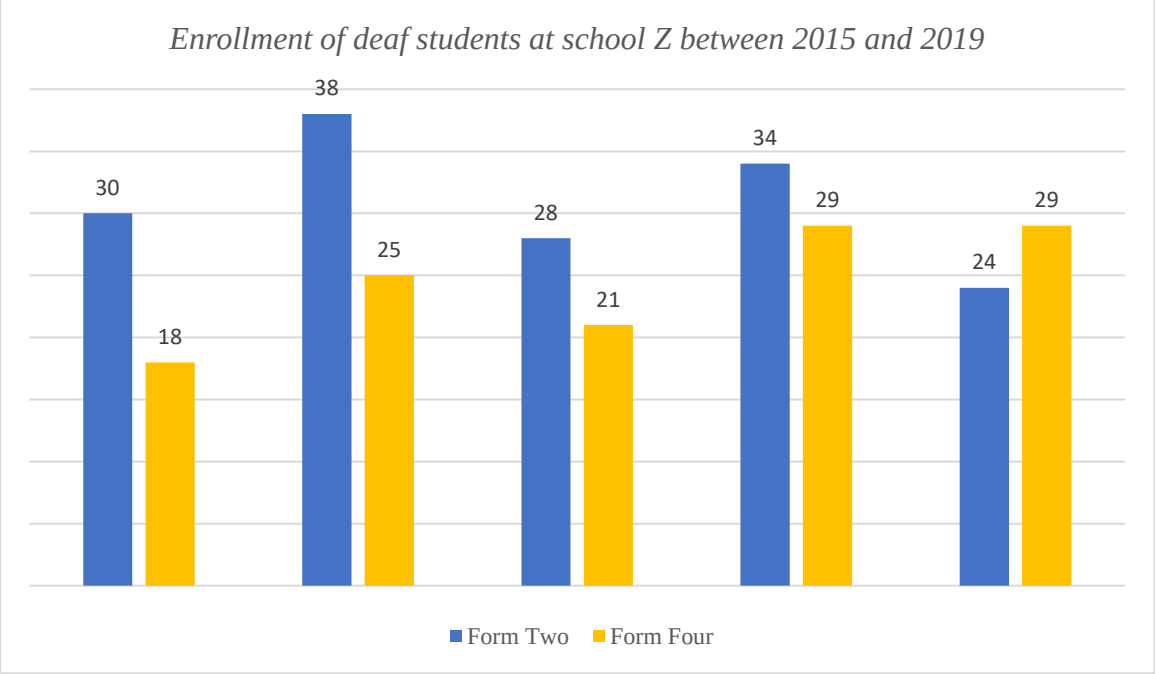


Figure 26: Enrolment of Deaf students

The statistics in Figure 26 above show the relative discrepancy in the enrolment rates between the two classes across four years of analysis. The number of Deaf students who managed to make it to Form Four in 2017 was 21 compared to 30 students of the same class who were registered in Form Two in 2015. That is, 9 students, equal to 30%, did not manage to complete their education cycle in the respective time. Similarly, in the year 2018, it is indicated that 29 students were registered in Form Four compared to 38 Deaf students of the same class who were registered in Form Two in 2016. Therefore, 9 students, who make 23.6% of all Deaf students registered in Form Two, were not able to complete their education cycle in the respective time.

Figure 27 shows that majority of Deaf students scored division 4; hence, reducing the number of those who scored division 0. Even though the trend indicates the regressive progression of attaining divisions 4 and 0 as years advanced, columns of division 4 have maintained high peaks compared to other divisions. Hence, efforts to uphold divisions 1, 2, and 3 were very slow-paced.

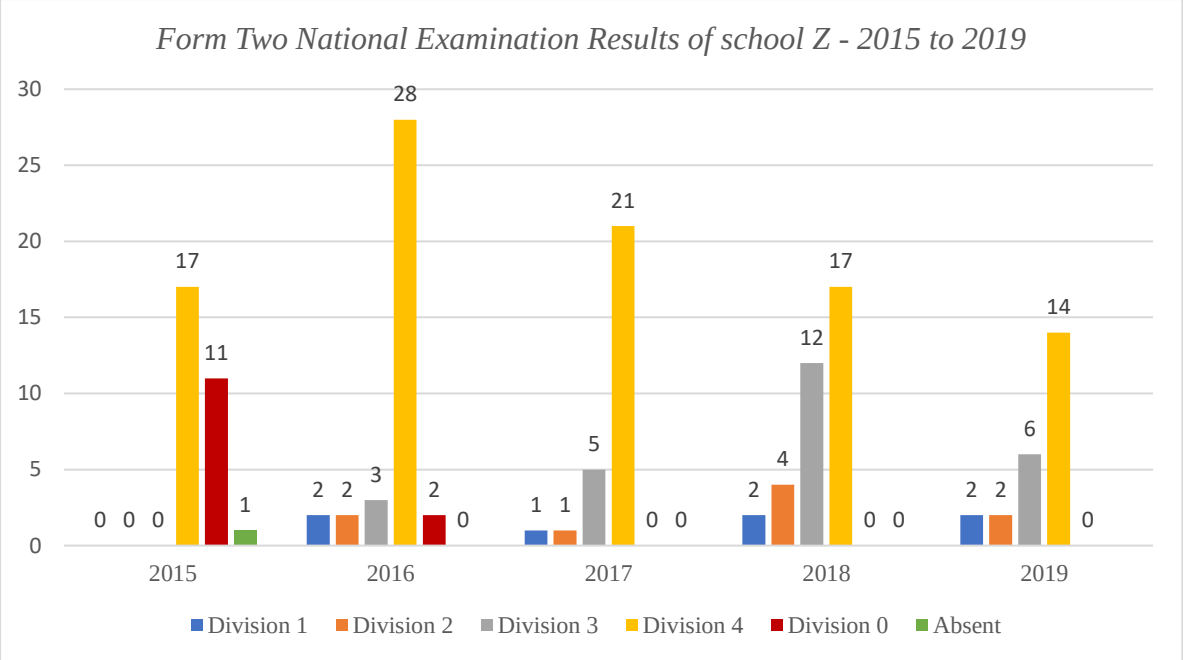


Figure 27: Deaf students examination results

6.4 Conclusion

This chapter has explicitly presented the qualitative data as found in the field. Interviews, observations, focus discussions and documentary analyses were done in line with the guidelines of qualitative enquiry. The use of pictures, sketch maps and graphs as part of the presentation is meant to simplify the interpretation of the facts as they appear in respective figures and graphs.

Chapter Seven

Analysis of Findings

7.1 Introduction

Data were analysed according to the methodology and procedures that have been discussed in Chapter Five. Therefore, the analysis is organized in line with the procedures of data presentation in Chapter Six. Thus, each section of this chapter comprises the specific facets through which data were obtained. To comply with the design that this research used, the interpretive phenomenological analysis (IPA) approach was used as a guiding tool for analysis because it provides thick descriptions of characteristics, processes, transactions, and contexts being studied (Blanche, Durrheim, & Kelvin, 2006, p. 321).

Since phenomenological studies deal with people's behaviours in everyday life, activities and individuals' interpretation of the world, Creswell (2007, p. 60) emphasizes the need to consider an analysis of significant quotes and statements which reflect peoples' conditions, situations, and contexts. Emphasizing the need to understand people's behaviours, IPA includes transcriptions of interview audio records, content analysis, and coding (Miles, Huberman, & Saldara, 2014, p. 11; Bryman, 2012, p. 565) which are described in detail in the following sections.

7.2 Data Analysis Procedures

Qualitative data analysis requires the researcher to be open to possibilities on describing the findings (Creswell, 1994, p. 153; 2007). Hence, data analysis was done simultaneously with data collection, data interpretation and narrative report writing. In this regard, the first stages of data analysis involved the transcription of the interviews and focus group discussions to get transcripts that were subjected to the first cycle coding.

7.2.1 Transcription

Interviews and focus group discussions were conducted in the preferred language of the participants and were thus done differently to students and teachers. In this case, interviews and focus group discussions with students were done in Kiswahili, while the one with teachers they were conducted in English. Transcriptions for teachers were done from the spoken English (that was recorded) to written English, whereas the students' data went

through a double process including transcription from spoken Kiswahili into written Kiswahili and then translated into English. For TSL, Deaf student's responses were transliterated into Kiswahili then glossed in English. When a Deaf respondent used English-supported signs, responses were transliterated into English. Since I am fluent in both English and Kiswahili, I did the translations personally, which can be seen as both a strength and a limitation. To mitigate the limitation, I had the translations verified by an external bilingual Tanzanian academic. All the transcripts and their interpretations were filed for coding and further analysis.

7.2.2 Coding

Through codes, I generated specific categories that were potential for synthesis. Categories acted as indicators of behaviours that were examined comparatively to determine the experience of teachers and students during the learning and teaching process. Therefore, I remained open-minded to generate as many new ideas as possible. So, coding was a necessary process of encapsulating the data (Bryman, 2014, p. 569), because it reflected the perspectives of research participants. Hence, two phases of coding were involved.

First cycle coding was essential for enabling me to come out with transcripts from the spectrum of the data range (Saldana, 2015, p. 3). Later, the second cycle involved portioning the coded data which were subjected to the development of themes.

For easy coding and interpretation, interview and focus group discussions transcripts were formatted into three columns, whereby the first column contains the interview transcripts; the second column contains preliminary code notes; and the third column contains the list of the final codes (Saldana, 2015, p. 17). The logic behind the generation of columns is to link the ideas generated in each column to one another. As Saldana (ibid) suggests, "the second column should provide a transitional link between raw data and codes," so the codes were used for generating themes and categories that were finally essential for thematic analysis, interpretation, and synthesis.

7.2.3 Thematic Analysis

The thematic analysis involved two approaches; the first was searching for themes from interviews, focus group discussions and observation field notes (Bryman, 2012, p. 578), and

the second was to generate themes from codes. Therefore, when making sense of the codes, I was able to view the social world of respondents somewhat differently from them (Charmaz 2006 quoted in Bryman, 2014, p. 569). Thus, in coding, I remained thoughtful of over 29 coding methods and their analytic possibilities – which are indeed frustrating. Despite the analytic possibilities, I was strengthened by what Saldana, (2015, p. 2) highlights, "there is no best way to code qualitative data".

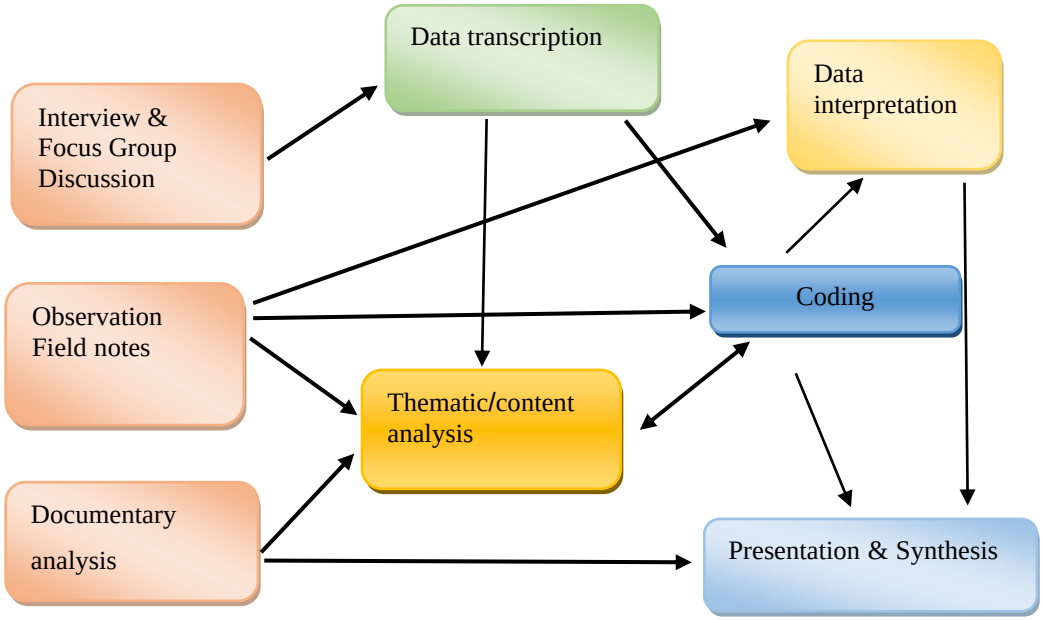


Figure 28: The diagrammatic representation of the data analysis process

Generally, data analyses involved multiple dimensions depending on the category of data and the approach of data collection used. Figure 28 indicates the visual representation of the whole analytic process that was followed in this study. As one may learn, data analysis was an interactive activity of various processes which eventually led to the presentation and synthesis of the research results and findings. So, although there was no definitive pathway to data presentation, I followed the qualitative data analysis protocols described above.

7.3 Section One: The Physical Context of the School

In this section, the physical contexts of the three schools that were involved in the study are analysed. In each school, I examined the structure and the school biography of respective schools. For anonymity, the schools are given labels; therefore, are identified as X, Y, and Z.

7.3.1 Secondary School X

The approach to inclusive education at school X reflects the social approach towards Deaf students. As the sketch map (see Figure 29) indicates, Deaf students were placed in their specific classes amidst classes of hearing students (see blue colour). Structurally, the school was inclusive following the fact that classes of Deaf students were not separated from those of the hearing students. However, on the other hand, Deaf students were being excluded from their hearing classmates during classroom teaching. The classroom doors were printed *'Speak English'* – which informs or reminds the students of the school's language policy. This, however, drew different reactions from the Deaf students as the focus group discussions and classroom observations will indicate.

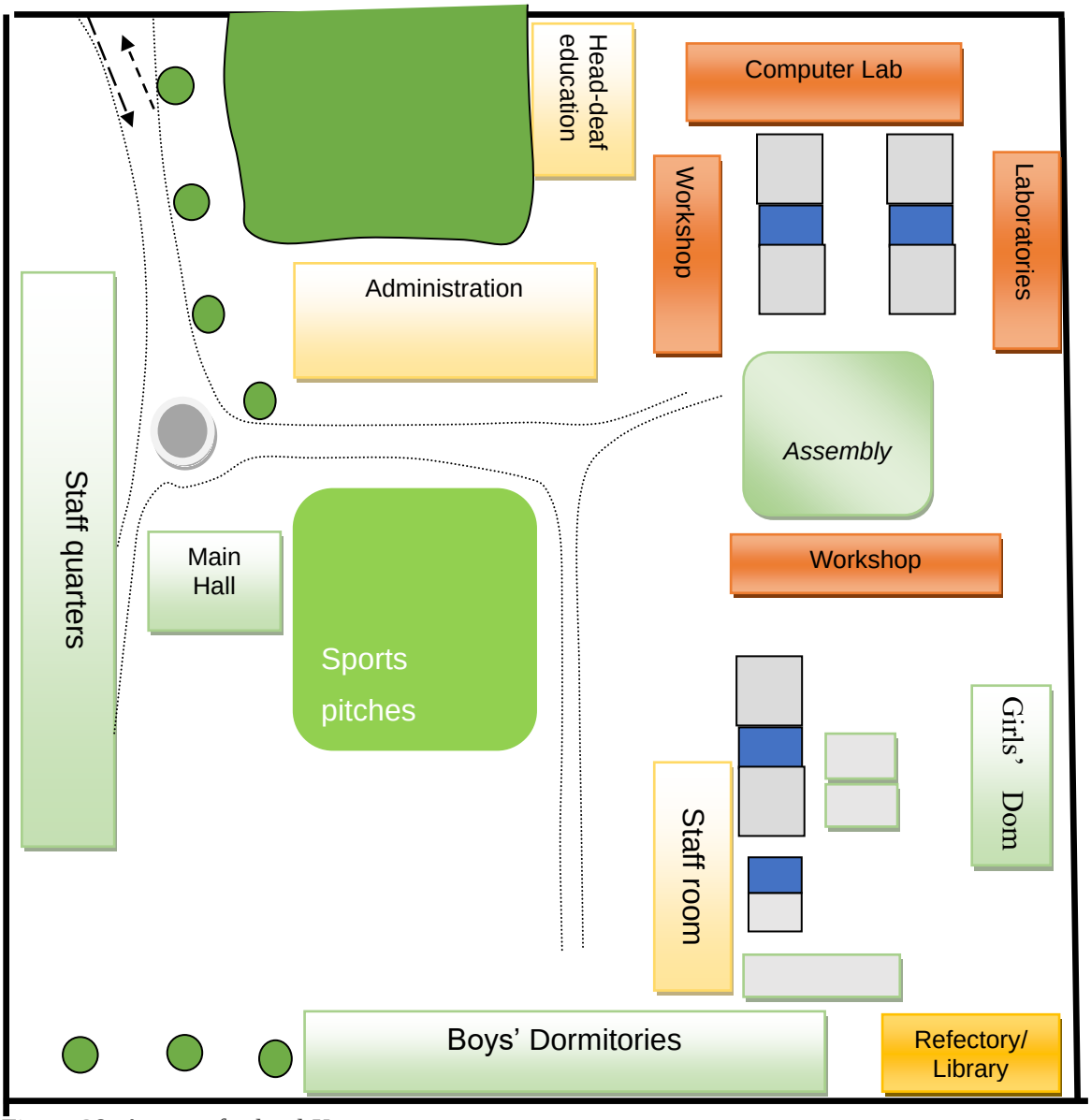


Figure 29: A map of school X

On the other hand, Deaf students' composition of 5% (*N=68*) in the school population of 1,220 students may tell about the actual ratio between hearing and Deaf persons in the world population. Hence, Deaf students experience actual life situations. The school's inclusive approach may bear strengths and weaknesses to Deaf students' learning situation, hence influences academic progress or failure to Deaf students – which is discussed later in this thesis.

With regard to the extra-curricular activities, Deaf students and hearing students were seen to mix. However, the majority group (95%) could easily dominate the modality of communication and Deaf students had to find their paths with spoken language communication modality. As it was evidenced, despite the minority (5%) regularly mixing with the hearing majority, interaction among them was limited. Thus, some Deaf students stayed in groups of their own whilst a few of them interacted with the hearing ones.

7.3.2 Secondary School Y

This school implemented total inclusion in which all students, regardless of their disabilities and learning needs, were placed in the same classes, and were taught by the same teachers. In all settings, Deaf students mixed freely with hearing students. This made the 6% (*N=30*) of Deaf students utilize full space of interaction among them and hearing students who composed 94% (*N=518*). However, on the other hand, they were obliged to find their pathways within the dominant hearing population of students (94%) and teachers (100%) whose main language modality was the spoken one.

Regarding the school culture, printed doors with phrases 'Speak English' informs that English was the main medium of communication, instruction, and assessment. This resulted in different reactions from students in their communication.

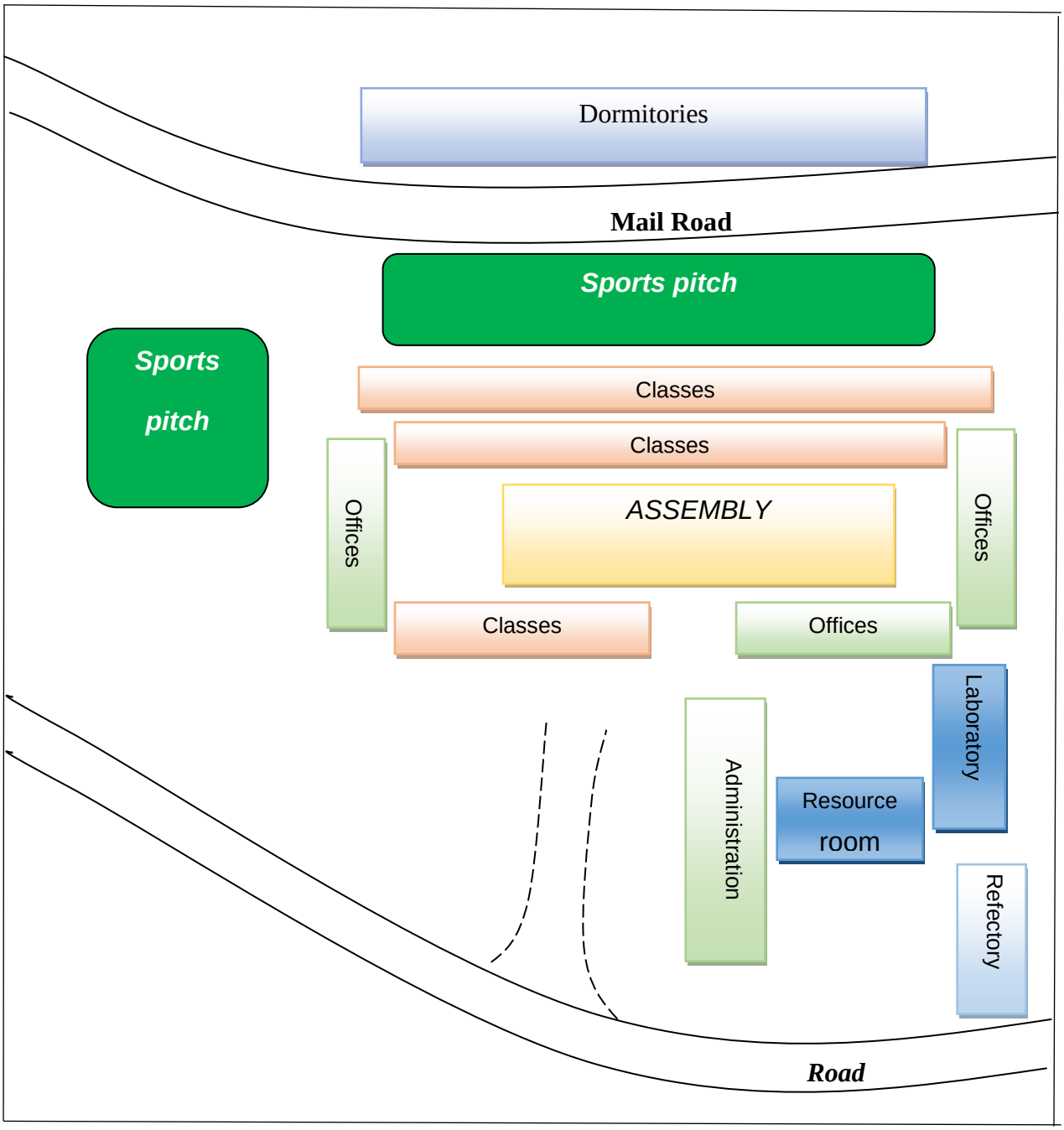


Figure 30: A sketch map of school Y

Structurally, the school informs its preparedness to handle inclusion in its totality. Apart from the resource room available for Deaf students' remedial classes, there was no possibility that Deaf students were separated from their hearing peers. The only challenge faced was communication and information access – which was as well advocated by the school management. The composition of teachers in this school – which was a team of specialized and unspecialized teachers for Deaf education –is a strong aspect of building the community of practice among them.

7.3.3 Secondary School Z

This is the special school that was designed to educate Deaf students. Its composition included 117 students and 36 teachers (including 2 Deaf teachers). Except for Deaf teacher, 35.2% (*N=12*) can communicate in sign language and the rest 64.8% (*N=22*) cannot. In this sense, most teachers would prefer spoken language modality to sign language modality.

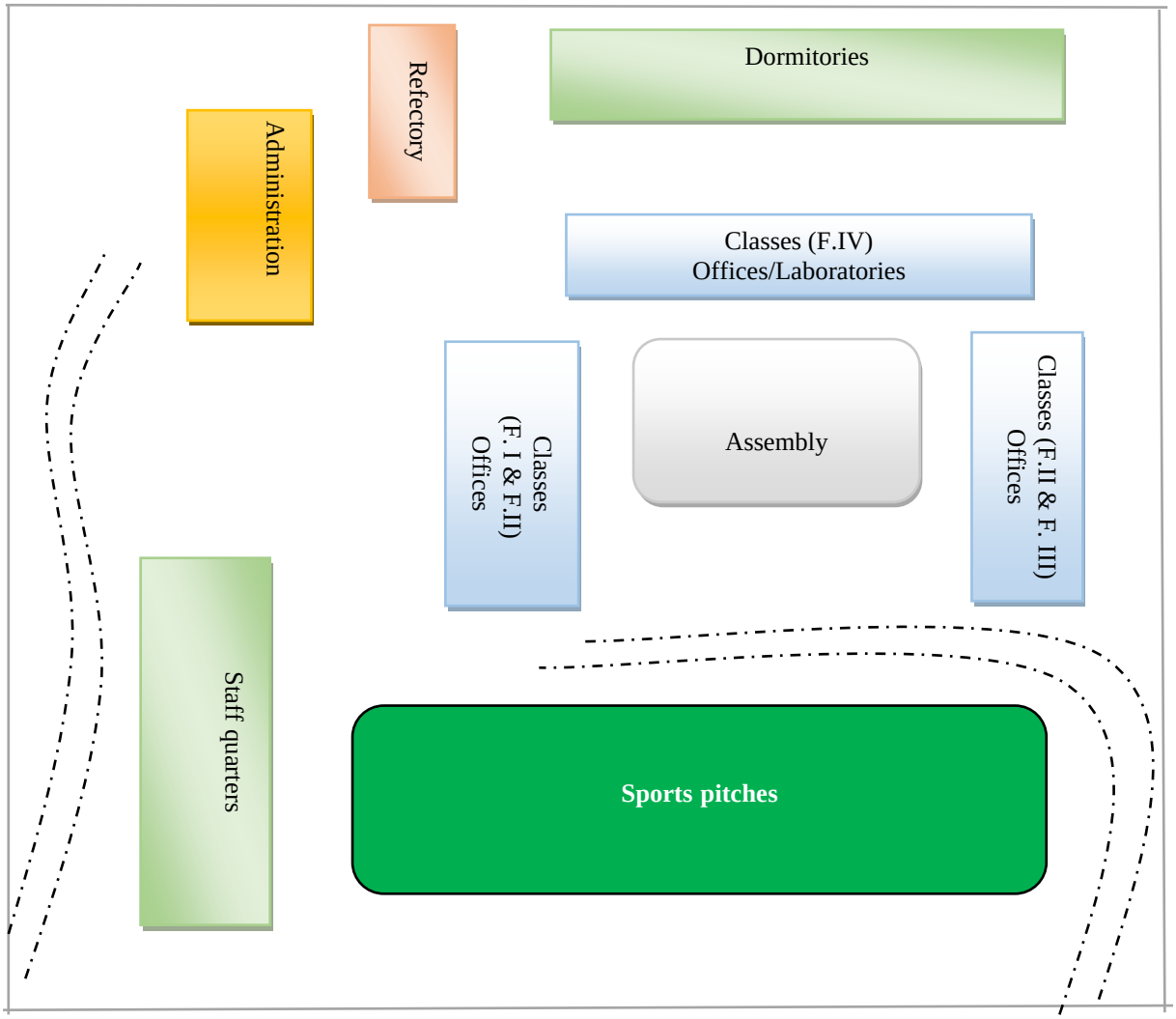


Figure 31: A sketch map of school Z

On the other hand, the school adopted the curriculum for ordinary level secondary education as determined by the Ministry of Education. Thus, its programmes were similar to the programmes in other secondary schools. Additionally, examinations were pre-determined by the National Examination Council of Tanzania (NECTA) – which is the national board for examinations. In this context, Deaf students were subjected to the same and similar examinations as that hearing students across the country.

Regarding the school culture, the composition of Deaf students and teachers made the school to be entirely an inclusive school whose large portion of the population recognized the culture of Deaf persons – *Deaf culture*. Similarly, the diverse composition of teachers catalysed the formation of the community of practice among them in a manner that each teacher can learn from the other.

7.4 Analysis of Participants

In this section, analyse the participants that were presented in section 5.3 of the methodology section. In terms of students, their profile data are categorized according to their hearing status. This approach makes it easy to understand specific information that is required from specific students. The analysis of participants informs the reader what specific information is contained in respondents and assesses the impact of such information in the implementation of inclusive education in their respective schools.

7.4.1 Teachers' Analysis

Twelve teachers were involved in interviews and classroom observation (*see section 5.3*). As shown in Table 10, most teachers – 66.7% (*N=8*) – were in the cluster of 30-50 years old whilst 33.3% (*N=4*) were above 50 years – which is both a strength and a limitation. Regarding the strength, it is optimistic that junior teachers are a majority population; hence, can sustain the proper teaching of the Deaf. On the other hand, if not well accommodated, this group may easily refrain from teaching and join other professions. However, senior teachers, despite forming a small group, are more experienced in dealing with Deaf students and are of great potential. It may be also true that their age factor may influence their partial engagement in teaching Deaf students.

Age rank (years)	20-30	31-40	41-50	51-60	61-70
Number	0	5	3	3	1
%	0	41.7	25	25	8.3

Table 11: Analysis of teachers by age

Table 11 shows the academic and professional qualifications of the teachers who were involved in the study. As it is indicated, out of the 12 teachers, 25% (*N=3*) had no

background knowledge in Deaf education whilst 75% (*N=9*) had some training on hearing impairment (HI).

Diploma		**Bachelor**		**Masters**	
Other	Special (HI)	Other	Special (HI)	Other	Special (HI)
0	3	3	4	0	2
0%	25%	25%	33.3%	0%	16.7%

Table 12: Analysis of teachers by education level

Table 12 indicates the teachers' ability to communicate in TSL. This section is not a linguistic analysis of the teacher; rather it is concerned with the receptive and expressive ability of the teacher to use TSL. The analysis is based on their views and personal rating. However, observation of the teacher's communicative ability was a supporting criterion for categorization.

School X					**School Y**					**School Z**				
Very Poor	*Poor*	*Average*	*Good*	*Very good*	*Very Poor*	*Poor*	*Average*	*Good*	*Very good*	*Very Poor*	*Poor*	*Average*	*Good*	*Very good*
0	2	1	0	1	0	3	0	1	0	0	1	1	1	1
N=4					**N=4**					**N=4**				

Table 13: Teachers' Sign language abilities

In light of the statistics in Table 12, it is clear that there was an unproportioned ratio between teachers who could use TSL and those who could not. For example, in school X and Y, 75% (N=3) of teachers whose ability to use TSL was below average while 25% (N=1) were above average.

7.4.2 Deaf students' profiles

This study involved 68 Deaf students from the three secondary schools including 4 university graduate Deaf students. As it is indicated in Table 13, students who were involved formed a heterogeneous cluster with diverse interpretations. Below is the analysis of Deaf respondents from the three schools. The Deaf who graduated in their secondary education has been profiled in section 5.3 of the methodology section.

7.4.2.1 Deaf students

The analysis of Deaf students considered their hearing status. Hence, two factors were emphasized: level of hearing and the age of onset. Table 13 provides the reader with a brief information of the 64 Deaf participants excluding ex-secondary school Deaf participants.

Class	With residual hearing	No hearing at all	Total	Prelingual	Post lingual	Total
Form III	27	18	45	8	37	45
Form IV	6	13	19	3	16	19
% (N)	51.6 (N=33)	38.4 (N=31)	100	17.2 (N=11)	82.8 (N=53)	100

Table 14: Deaf students involved in the study.

Table 13 indicates that most Deaf students of about 82.8 % (*N=53*) who reached secondary education were post-lingual whilst prelingual Deaf students comprised a small portion of 17.2% (*N=11*). Additionally, Deaf students with residual hearing formed a big population of 51.6% (*N=33*) in secondary education, unlike Deaf students without any hearing who accounted for 38.4% (*N=31*). This indicates that a few prelingual Deaf students could manage their secondary education when compared to prelingual Deaf students.

7.5 Section Two: Data analysis by type of data source

This section takes the reader through the analyses of data with respect to how they were collected. Within the realm of phenomenology inquiries, the analysis interprets the meaning in thematic areas of concern. Additionally, content analysis is done in line with the experiences of teachers and students, manifested in their particular responses (Vos, Srydom, & Delport, 2014).

7.5.1 Interviews

This section involves the analysis of personal and group interviews. Much of the analyses of interviews were discussed in Chapter Six. Since this research applied a qualitative approach, thematic analysis has been widely applied to ensure that data saturation is reached. Throughout the next sections, phenomenology is greatly utilized in interpreting the lived experiences of respondents regarding Deaf students. As described in Chapter One of this thesis, the interview was done to explore the following areas within a school:

i. the learning engagement and cooperation among Deaf and hearing students;
ii. the responsiveness of the learning environment;
iii. the incorporation of visual needs of learners in class; and
iv. the academic progress of Deaf students.

As it is elaborated on in Section 7.2, the analysis of interviews passed through three processes which are transcription, coding, and thematic analysis. Through these processes, interviews identified the following themes: personal experience with Deaf students and school culture, which are presented in the next section.

7.5.1.1 Personal Experience with Deaf Students

The guiding question to this theme required hearing students provide their feelings about studying with Deaf students in one class. Interviewees identified their differences regarding their perspectives on their experiences with Deaf students. Out of eight students, six were comfortable, one was uncomfortable, and one was undecided. Except for one hearing student who was clear that he felt uncomfortable, the rest seven students held the proposition that they were okay with Deaf students in the class. Six hearing students explained further that they could not ask for any academic assistance from Deaf students despite being comfortable in being with them. With such a proposition, findings suggest that friendship between hearing and Deaf students was hardly established on the academic ground. This proposition was a common case among the majority of the hearing students who usually considered Deaf students as being incapable academically.

On the other side, hearing students indicated that they were intrinsically motivated to learn sign language because some either had a Deaf friend or relative. In this regard, the cooperation between Deaf and hearing students in inclusive schools was more apparent during extra-curricular activities than academic/classroom sessions. This is because barriers to interaction among students were significantly reduced during extra-curricular activities than during class hours. In this respect, communication and interaction were more open during extra-curricular activities and students got exposed to various communication modes of their interests.

However, the interaction among students was affected by personal self-driven myths that might have been rooted in society. This theme was exemplified by one hearing student who

commented that “Deaf students are impolite” and that it was the main reason he had never thought of working with them. This student was not friendly to Deaf students and he had not worked with them. Given the fact that he had never come across Deaf persons, holding such a strong accusation over Deaf students reflected his attitude towards persons with disabilities.

On the other hand, teachers’ responses across the three schools indicated that they had a variant experience with Deaf students. Some teachers considered Deaf students as potential students whereas others saw them as slow learners.

At school X, for example, Mr. Lu (53) was found to be passionate with Deaf students and acknowledged the fact that Deaf students were skillful. He expressed his feelings by saying: “…I am hurt when I see Deaf students failing their exams…. I see Deaf students as potential, only that they are denied the right to access their language”. Despite acknowledging the ability of Deaf students, he did not do things differently, instead, he only complained of the denial of linguistic human rights to Deaf students.

However, the assumption among many teachers was that Deaf students were academically incapable; hence, could not afford secondary education. On the contrary, Teacher Li (32) demonstrated to be proud to teach Deaf students despite some of them being weak and slow to learn at the secondary education level. Her assertions have strong effects on her morale to teach Deaf students.

At school Y, teachers had different views on Deaf students. For example, Teacher Wi (59) and Teacher Ti (54) were positive towards Deaf students and held the assertion that Deaf students could be taught just as hearing students. However, Teacher Je (31) was of the opinion that Deaf students were slow learners; hence, teaching them in inclusive classes delayed the teacher from covering his/her lessons in time. Additionally, he believed that including Deaf students in the same class as the hearing ones was improper for teachers because Deaf students were slow, and this affected negatively the whole teaching process. At school Z, there were different points of view regarding the teachers’ experiences of Deaf students. Most teachers believed that such students were difficult to be taught while one teacher was positive and believed that they could be taught and do better in their examinations.

Generally, the study findings revealed that senior teachers from the three schools were more positive towards Deaf students' learning possibilities compared to junior teachers. In all three schools, senior teachers (above 50 years) considered Deaf students as potential learners who could be taught and learn equally as hearing students. However, teachers below 50 years were less positive and identified several challenges regarding Deaf students' ability to learn in secondary education. For example, out of 8 teachers whose age was below 50 years, one teacher – Teacher Li (32) – was of the view that Deaf students could learn effectively given enabling environment. Additionally, the study findings showed that only 25% (*N=3*) of teachers from the three schools were of the view that Deaf students could manage a secondary education. Despite that, only 75% (*N=9*) of teachers who were interviewed were trained in special education and they had some background knowledge in Deaf education – yet most of them affirmed that Deaf students were difficult and slow learners; hence, incapable academically.

7.5.1.2 School Culture and Classroom Accommodation

Another theme that was the focus of interviews was to explore how schools handled the learning diversity of Deaf students. In this regard, three areas were identified namely language and communication, school programmes, and pedagogical adaptations.

i. Language and communication

From the three schools, sign language use among students and teachers within the school premises was low to the extent that spoken language(s) mode had dominated most domains of communication. For example, 33.3% (*N=4*) of teachers were able to use sign language in their communication with Deaf students, while 66.7% (*N=8*) of teachers said that they could not sign; thus, they preferred using the spoken modality to signing modality (see Table 12).

On the other hand, the schools' language policies had respective impacts on language choices among teachers. For example, Teacher Ish clarified that;

> "…The directives of the education policy and school sub-policies are meant to ensure English is used as the medium of communication, instruction, and assessment at all levels of education. It is because of such directives we are using English mostly in our internal communication."

With such directives, teachers and students were forced to use English mostly in their communication, classroom teaching and learning and assessment. This adversely affected the use of sign language in those schools. However, even though some schools had made internal efforts to establish Sign Language Clubs (SLC) – to enhance sign language use among teachers and students – some of such SLC did not operate at all. With respect to the effectiveness of SLC, teacher Je remarked that it was recommended that teachers were required to use English as the main communication mode, thus, most teachers lost their morale of learning sign language.

Generally, language policies seemed to have had a big stake in the ineffective use of sign language among students and teachers. Available language policies were skewed to favour spoken language use over the use of sign language. Furthermore, language use among teachers and students was influenced by some personal attitudes and will. To other teachers, despite being fluent in sign language, they felt confident when they used spoken languages. Consequently, Deaf students regularly had to initiate their struggles of seeking their pathways in a society that did not use their language.

ii. School Programmes

This aspect was an essential element of determining the creation of communities of learning (CoL) among students in a school. In this aspect, school culture was explored through open-ended questions to students and teachers. Questions required respondents to show how the CoL was manifested and captured with the school programme. Responses generally indicated that schools followed the curriculum for ordinary level secondary education which determines the number of lessons per week.

However, it was evident that some schools had no individual programmes that captured the learning needs of Deaf students whilst others had made some mileage in establishing programmes meant to support Deaf students' learning. Responses from students contradicted what the teachers said regarding school programmes. For example, regarding the SLC programme, teachers at School X and Z emphasized that their schools had put in place some specific efforts to make sure that SLC runs harmoniously to assist communication among members of the school, students from the same schools pointed out that there were no SLC at

all. This contradiction between two sides regarding the same phenomenon implicated that schools were not doing enough on the ground regarding educating Deaf students.

Nevertheless, because the communication bridge between hearing and Deaf students in schools was broken, it was also clear that Deaf students hardly paired with hearing students. Consequently, the role of schools to form CoL was hardly fulfilled, and Deaf students had to have personal struggles to do better in education.

Regarding the special facilities, among the three schools, only school Y had a 'resource room' for Deaf students' academic assistance. Nevertheless, the school did not have extra programmes through which teachers and Deaf students would use the room effectively. As a result, the room was found to have been furnished with tables and chairs and Deaf students used it for personal studies. So, usually after the programme of the day, Deaf students gathered in the room for personal study. This was another indication that even though Deaf students were taught in the same class as hearing students, Deaf students distanced themselves from the hearing colleagues – and of course, they used the resource room as a 'meeting point' for themselves.

iii. Pedagogical adaptations

With regard to the teachers' consideration during classroom teaching, it was clear that they used regular methods to teach Deaf students. From all the three schools, respondents pointed out that, despite different mechanisms towards inclusion among schools, teachers' approaches to classroom teaching were uniform. In this aspect, all teachers expressed that their lesson preparations and classroom teaching were regular. On the contrary, teacher Lu (33) indicated that she was aware of the need to teach Deaf students and prepare them thoroughly for their final exams. However, she noted that she did not cover the syllabus in time because of her strategy.

Generally, classroom teaching was variant depending on the teachers' skills and attitude to Deaf students. Much of this section is further analysed in detail in section 7.5.3 of this chapter – in which each teacher's classroom pedagogical adaptations are described basing on the strengths and challenges of each.

7.5.2 Focus Group Discussion

Like interviews, the focus group discussion involved three steps of data analysis. In the first step, all data were transcribed to allow the research to have visible access to data. This step was followed by coding. The last step was classifying codes according to their similarities and differences which later resulted in the analysis of themes. In line with four specific areas of the study focus namely i. the learning engagement and cooperation among Deaf and hearing students: ii. the responsiveness of the learning environment; iii. the incorporation of visual needs of learners in class; and iv. the academic progress of Deaf students, the analysis of the focus group discussion identified the following areas.

i. Readiness to study in an inclusive school
ii. Learning accommodation
iii. Communication barriers

The main two areas of focus with this tool were an impression of studying in an inclusive setting and school learning accommodation. Students demonstrated different views regarding the two areas of analysis. For example, 76.2% (*N=16*) of the Deaf students indicated that they were not comfortable studying with hearing students in an inclusive school whereas 14.3% (*N=3*) felt comfortable. On the other hand, 75% (*N=6*) hearing students indicated that they were comfortable with Deaf students while 25% (*N=2*) were not.

Thus, inclusive school tendencies had impacted communication and language choices among members of the schools, and teachers' classroom behaviours. As a result, Deaf students felt excluded by the entire school culture. This made most Deaf students remain pessimistic with their future in inclusive schools, while a few of them (14.3%) remained optimistic.

On the other hand, there was a variation between 'inclusion' satisfactory levels between hearing and Deaf students. For example, 76.2% (*N=16*) of Deaf students from the two schools indicated that they felt uncomfortable studying with hearing mates, while 75% (*N=6*) of hearing students felt comfortable to study with Deaf students. This implies that most hearing students had a positive attitude towards Deaf students. However, despite the hearing students being positive towards Deaf students, it was rather evident that the academic cooperation between the two groups was missing.

The findings also showed that two hearing students (25%) did not want to mix with Deaf students but had no reason as to why they felt like that. One student maintained that Deaf students were 'troublesome' but did not clarify his assertions and allegations towards them. The other student mentioned that he had never come across Deaf persons since childhood, so he did not know how to communicate with the Deaf; hence, he saw no need of studying with them. Conversely, experience from graduated Deaf students indicated that the fate of Deaf students in an inclusive situation was in the hands of respective Deaf students. In all their situations, exclusion was a centre of their concerns. However, two managed to struggle and find their pathways in difficult situations whilst two failed.

7.5.3 Observation

The observation was a powerful tool for analysing school culture and inclusion of Deaf students. As stated in the methodology chapter, observation aimed to record participant's actions that were done in the context of inclusion. To this end, observation focused on the following specific areas: 1) Methods used by teachers to teach inclusive classes with Deaf students, 2) Ways in which teachers worked with Deaf students outside the classroom, 3) Ways in which hearing students cooperated with Deaf students in and outside classes, and 4) Deaf student's learning accommodation facilities in schools. So, instead of analysing one area after the other, I shall analyse the classroom situation and strategize on classroom learning behaviours. As it has been from the beginning, the analysis is based on respective schools as well.

School X

The observations conducted at this school were specifically designed to analyse how teachers accommodate the learning needs of Deaf students in their classroom teaching. The lessons of two subjects – English and Civics – were observed from the classes of Deaf students alone while Mathematics was in an inclusive class. Each subject is analysed as an independent case.

Form III –Civics Lesson

Teacher Ki – the subject teacher – used question-and-answer as the main method of teaching Deaf students. The method enabled the students to usually brainstorm and discuss in pairs and to arrive at what the teacher wanted. Additionally, the classroom communication

modality gave students a wide space of choice on a particular path to go through. For example, questions were written in the English language while explanations were given in Kiswahili and sign language. Hence, it was easy for students to navigate through the modes. This modality made the class interactive and active, and students were observed responding to questions actively (see red-dotted arrows[15]). The teacher used the chalkboard as his main teaching aid by which every concept was written for students to see it.

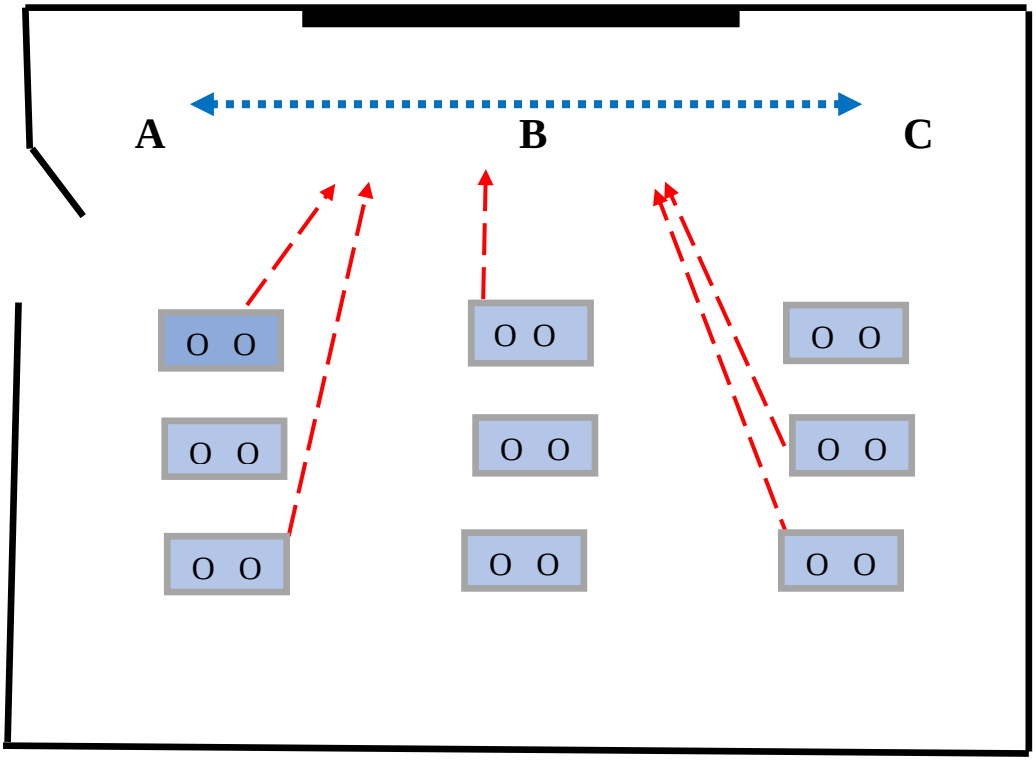


Figure 32: Classroom of Deaf students

Despite his educational background (see section 7.3.1), the teacher's communication modality allowed students to form and agree upon the use of particular signs for respective concepts. For example, students were involved in forming a sign for the word 'drugs'. There were different signs formed but ultimately, students agreed to adopt one sign among the proposed signs. This was a powerful part of learning in which students brainstorm on what fits their purpose. However, the teacher moved around right in front of the class across points A, B, and C (see blue-dotted arrows in Figure 32) when he was teaching while placing his books on students' desks. This indicates that some teachers did not prepare their classes beforehand.

[15] Arrows show the movements in in class.

Form III –English Lesson

This class was taught by teacher Lu. It is the same class as shown in Figure 32. In this class, the teacher-led students to learn by themselves in groups (see Figure 33). At first, before he started to teach, he ensured every student had an exercise book for English on the desk, after which he introduced the lesson. In his teaching, the teacher did not own the learning process of students, instead, he used his capacity to exemplify the key concepts of the lesson and left students to learn by themselves in groups. Additionally, his creative use of pictures aided in information processing among students.

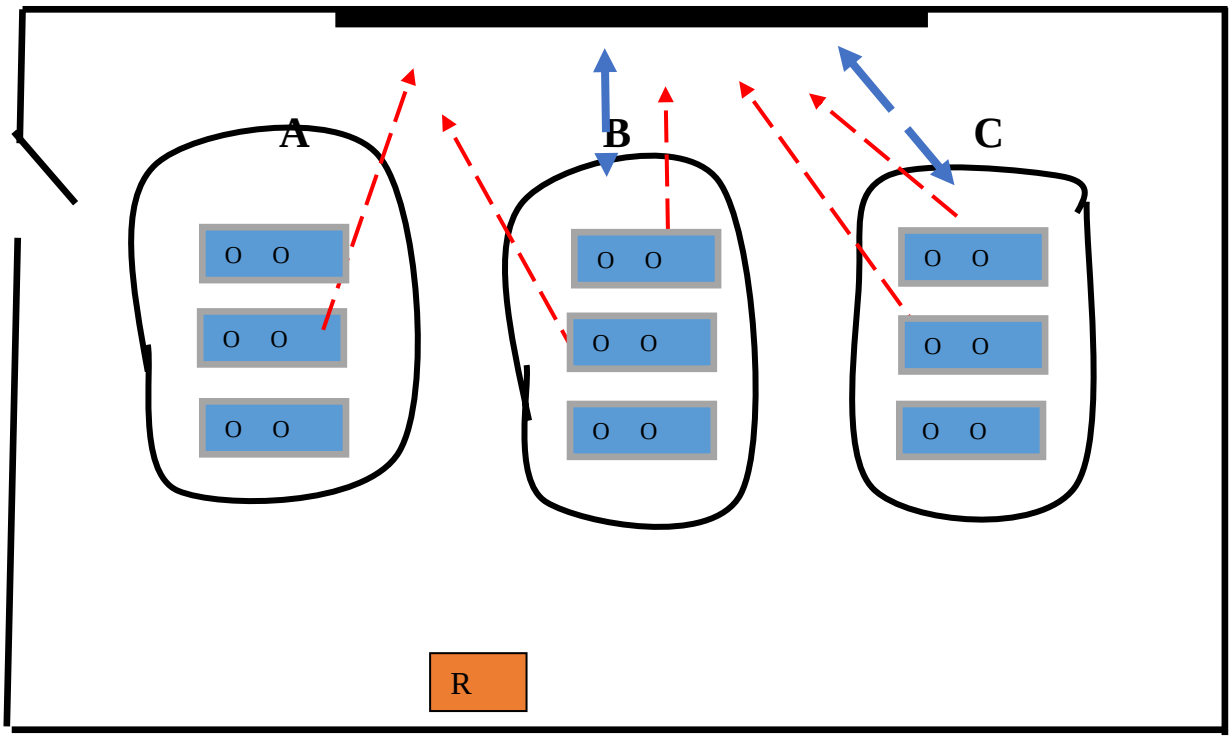


Figure 33: Deaf students in group discussions

Moreover, the teacher was flexible with the modality of communication with Deaf students in the class. For example, despite the lesson being in English, he used Kiswahili and sign-supported language to clarify the concepts. Through this modality, Deaf students would contribute to the lesson by explaining what they did in groups (see red-dotted arrows in Figure 33). Despite the fact that only five students from three groups came forward to respond to what the teacher asked, the entire class was actively involved in discussions whilst the teacher kept moving around the class. Blue-dotted arrows above (see figure 33) indicate teachers' movements when students were discussing in group work. Students in group A were not supervised by the teacher; hence, they were not as active as the students in the other groups that were supervised by the teacher.

Form IV – Basic Mathematics Lesson

The class had 39 hearing students and 2 Deaf students. In this mainstream class, Deaf students joined their fellow hearing students. The classroom was spacious to the extent that the teacher could move around the class freely and comfortably. The ratio between Deaf students and hearing students was 1:20 – which makes Deaf students experience a natural setting of inclusion. The sitting plan of the class allocated Deaf students to the front desks next to the teacher (see the blue desk in figure 34).

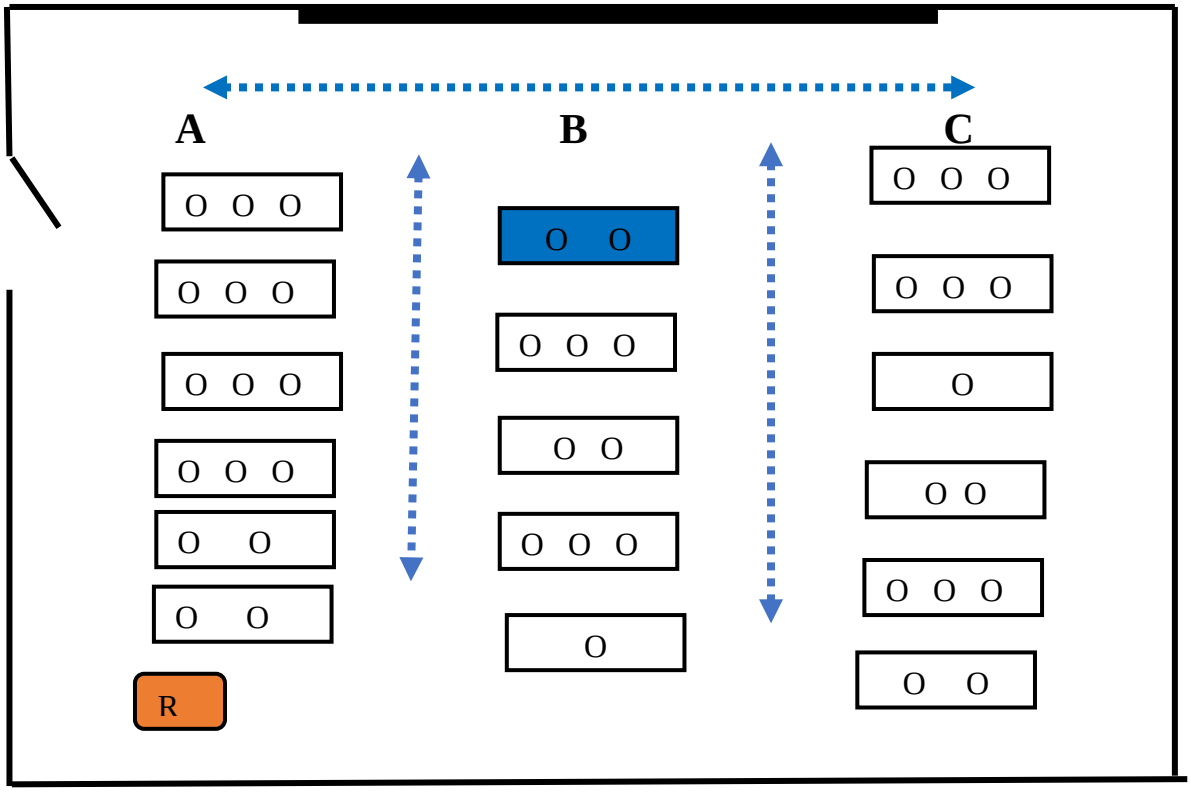


Figure 34: Inclusive class with Deaf students

Teaching procedure

At first, the teacher was observed to have used over 15 minutes to write his lesson on the blackboard, hence, the learning time for students was reduced by 15 minutes. However, the teaching approach of the teacher was regular, and he used spoken language modality which was exclusive to Deaf students. Consequently, hearing students were most actively participating compared to Deaf students who were passive to the extent that none of them neither asked nor responded to the questions.

Parade

There were incidences in which the staff started to give announcements before the arrival of the sign language interpreter. This was an indication of the regular tendencies of the school to ignore Deaf students in various aspects. Background to humanitarian grounds, a teacher volunteered to facilitate communication access among Deaf students.

School Y

Classroom observation in this school involved three subjects: English, Geography and Mathematics. As it was with School X, observations intended to capture teachers' and students' classroom tendencies towards Deaf students – as analysed in the following sections.

Form III B –English Lesson

The classroom consisted of 46 hearing students and 4 Deaf students making the ratio between Deaf and hearing students be almost 1:12. Despite the ratio being unproportionally, the Deaf students could have a natural experience of social inclusion. Regarding the teaching approach, teacher Je employed the 'question-and-answer method to teach his intended lesson. In his pedagogical methodologies, the teacher used spoken language as the main modality of classroom communication throughout, while inducing one hearing student to assume the role of sign language interpretation. It was only one case in this school that the teacher used a hearing student to interpret for Deaf students in the class. Despite that the teacher intended to assist Deaf students with communication, to use a hearing student as a 'sign language interpreter' has several limitations including overloading a student with an extra burden. However, the teacher's movements were around points A, B, and C. (see blue-dotted arrows on figure 35). Of course, the teacher seemed to prefer going to hearing students than to Deaf students. Therefore, hearing students were more active in class in responding to questions raised by the teacher.

In this case, seven students in the first three desks in column A were the most active of all. It was the side of the class the teacher usually focused on during his entire teaching. Given this scenario, it was clear that the seven students were mostly motivated to participate in the class compared to other students. On the other hand, despite the Deaf students' communication being facilitated by the 'sign language interpreter', still, they did not participate actively in

the whole lesson. Two of the three Deaf students were looking at the sign language interpreter whilst one Deaf student was busy copying the notes from the blackboard and sometimes was assisted by hearing students with whom she shared the desk. This was a typical indication that the cooperation between the 'sign language interpreter' and Deaf students was low and perhaps unsatisfactory.

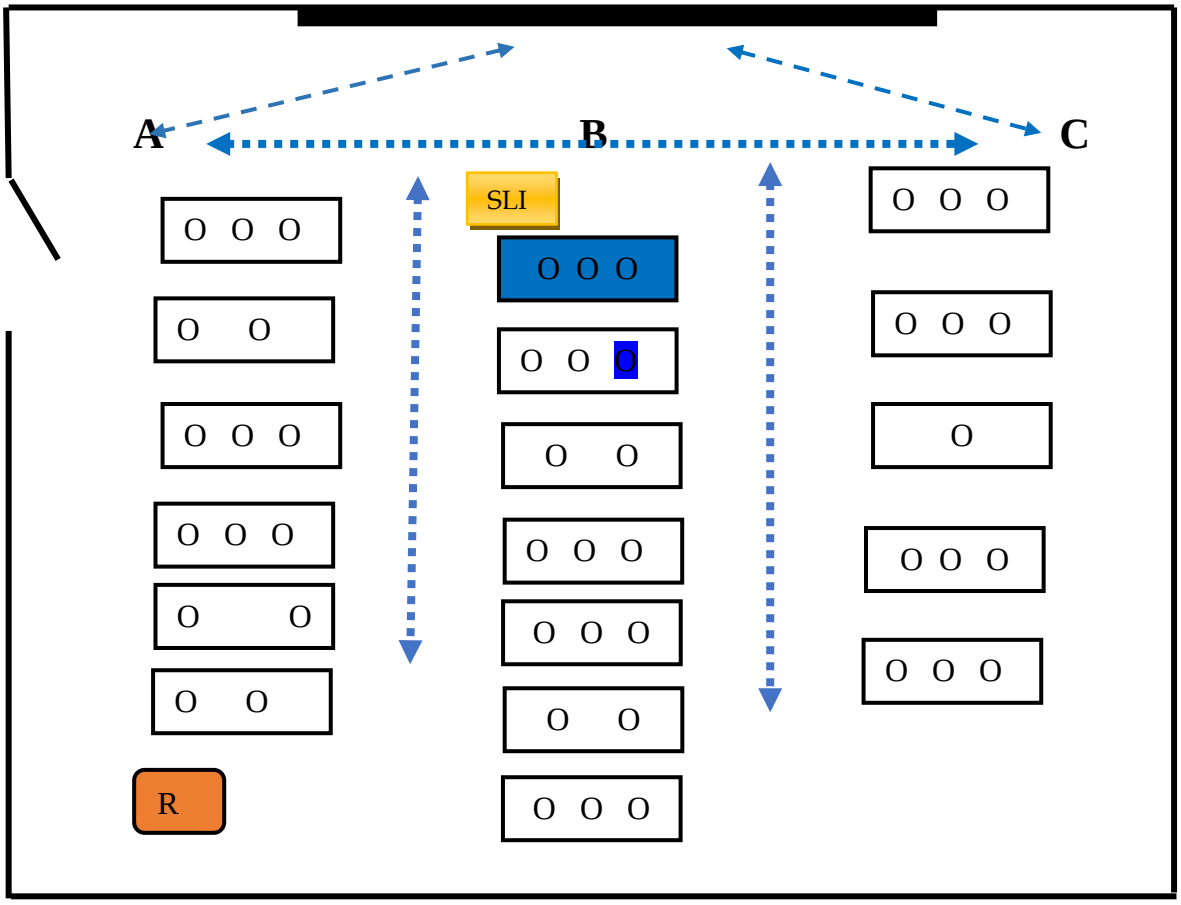


Figure 35: An inclusive class

Form III-A –Geography Lesson

In this class, 100% of the teachers' communication modality was spoken whilst using much of his time teaching students at point A (see the blue dotted arrows in Fig. 36). Despite the students at A seeming to be more active in class, the teacher's teaching style was not balanced to accommodate every student in the class. For example, his 'question-answer method of teaching' was oral; hence, Deaf students would not easily follow up the progress of the lesson.

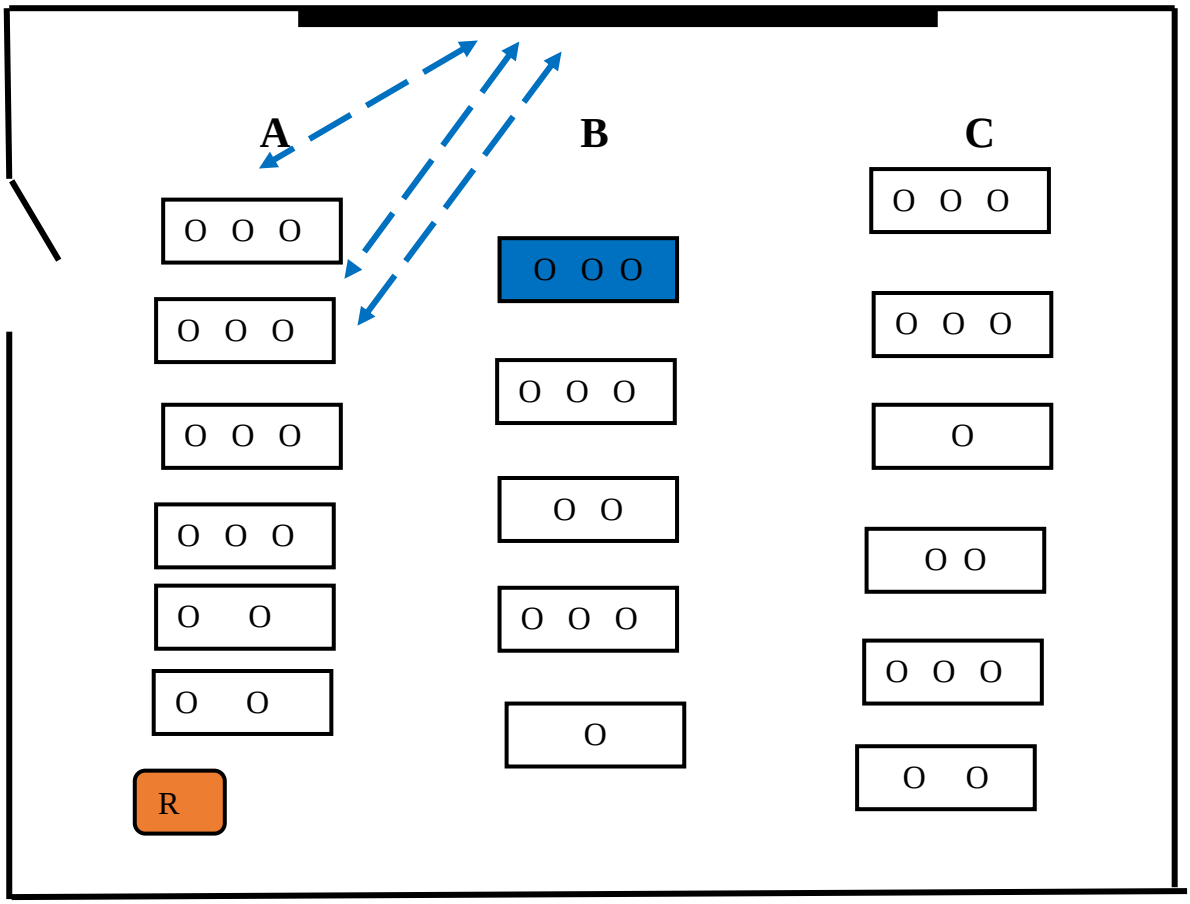


Figure 36: An inclusive class

Form IV B –Mathematics Lesson

The students' ratio in class – 1:43 – indicated the typical natural environment for the Deaf student. The Deaf student was placed next to a hearing student, which was an effective attempt of establishing good relationships and cooperation among students. The teacher's classroom communication was mostly spoken and written in which all questions were written on the chalkboard while frequently he navigated between spoken English and Kiswahili. In all the questions he asked in class, hearing students were the most active students who regularly responded to those questions. Throughout the lesson, the Deaf student was seen copying the notes from the blackboard, and in a few cases, she asked the neighbouring hearing student to assist her. The teacher's movements in the class were minimal – he maintained his position at point B while moving around the same position (see dotted blue arrows in Fig. 37). He used much of his teaching to work out examples on the blackboard while students mostly adopted chorus answers to respond to the teacher's questions.

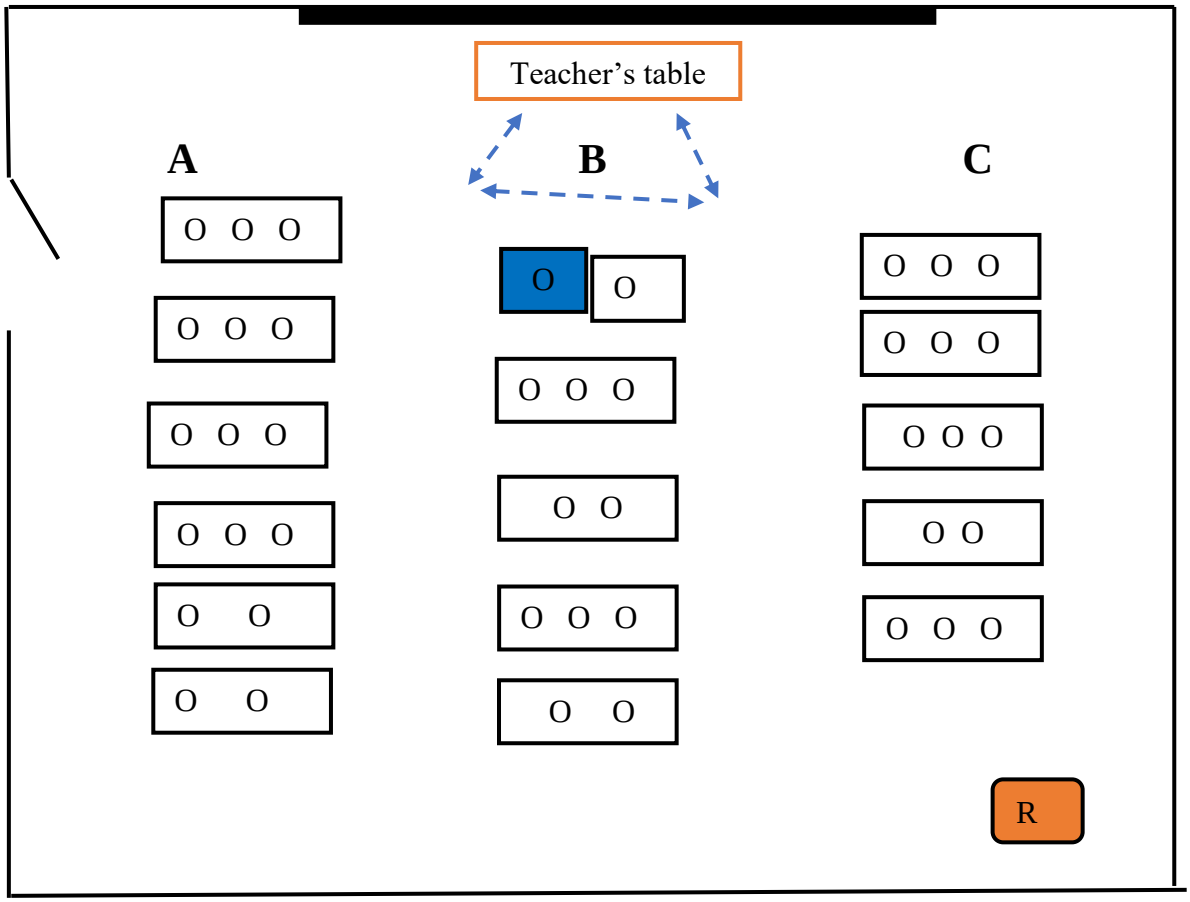


Figure 37: An inclusive class

School Z

In this school, three classroom observations were conducted in History, Physics, and English lessons. Observations' duration was not uniform because the guiding factor was the time allocated for each lesson. Below is the analysis of the classes.

Form III –Physics Lesson

This is a general class with 22 Deaf students. Given that students joined this class from different streams, it took some time before the teacher started to deliver his lesson. For example, the teacher delayed for 10 minutes before he started teaching, hence consuming students' time of classroom learning. However, amidst the lesson, the teacher gave a 10-minute break to students. Thus, almost 20 minutes of the class lesson were lost.

Regarding classroom communication, the teacher used diverse approaches including spoken Kiswahili, writing on the chalkboard and using signs/fingerspelling while students provided

the teacher with appropriate signs of novel concepts. This gave the class an avenue of utilising multiple communication ways. However, the teaching plan was natural in the sense that passive and active students were seen to be sitting in one position.

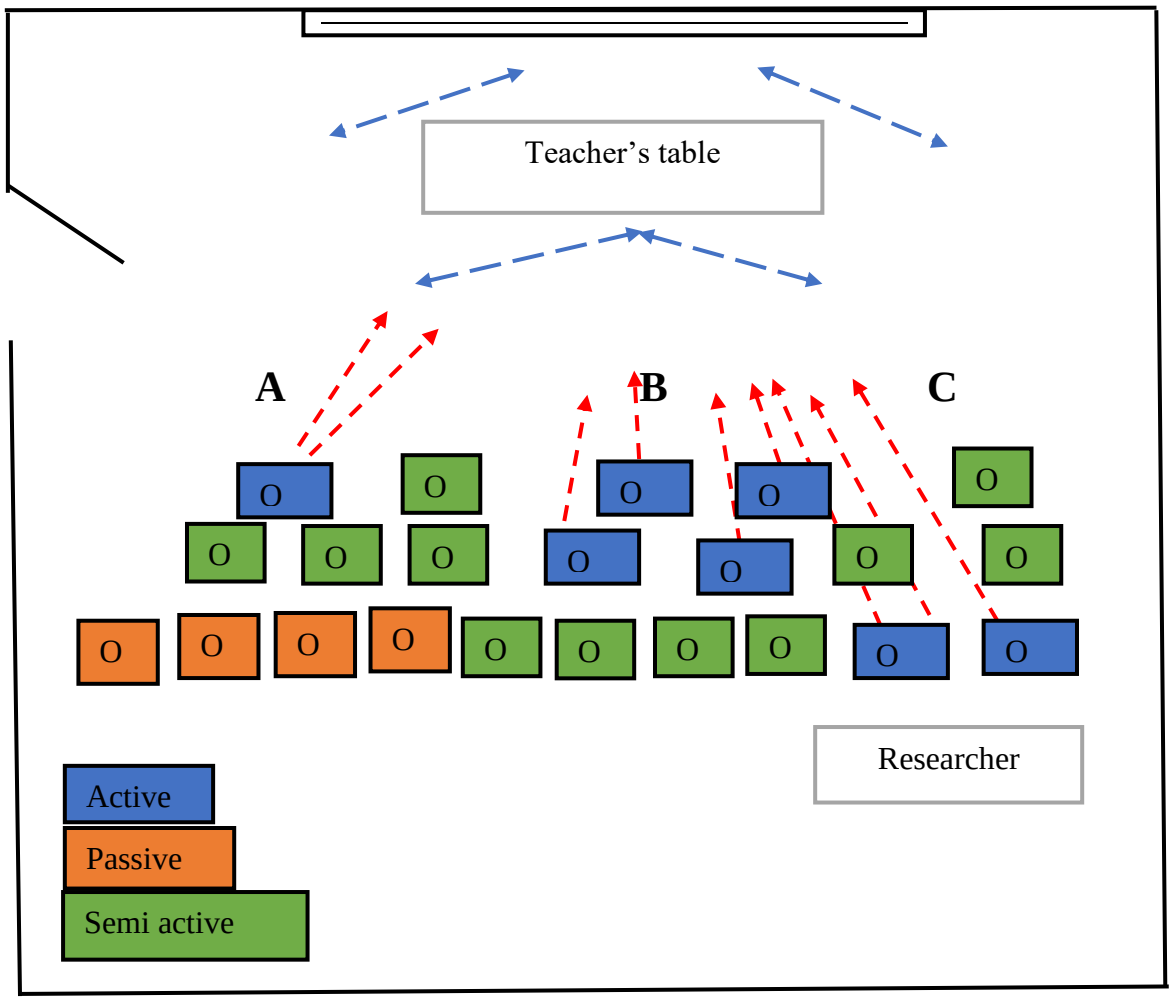


Figure 38: Class of the Deaf

Form III C –English Lesson

The class had 7 students seated in a semi-circle (see blue desks in Fig. 39). This sitting plan allowed clear visibility between the teacher and students. In this class, the teacher was bilingual Deaf and therefore was able to navigate between spoken and signed languages regularly. Her teaching approach motivated students to brainstorm and apply their prior knowledge to the current lesson. For example, after introducing the poem, she asked students to think about the differences between a poem and a novel. This made students debate among themselves before they started to provide answers. Additionally, she applied diverse communication techniques in order to convey what she was teaching. For example, she

regularly used spoken language (Kiswahili) and signing in TSL when explaining what students needed to do.

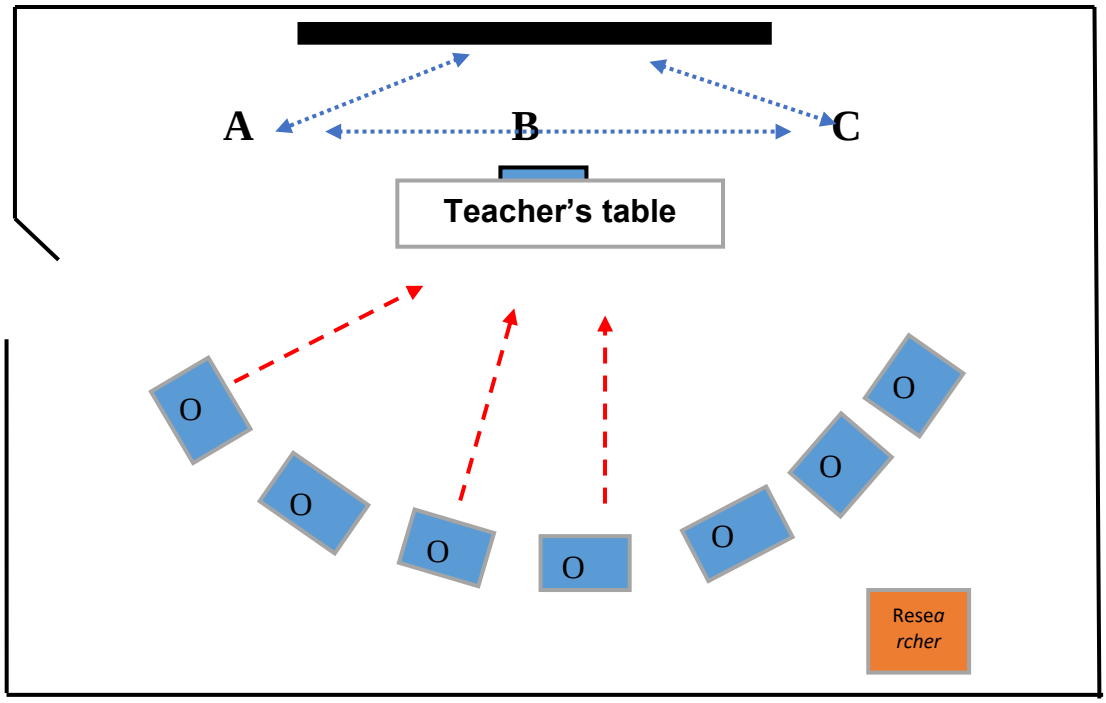


Figure 39: A class of Deaf students

Similarly, her participatory teaching approach allowed students to apply peer-teaching in groups to discuss specific concepts related to the particular lesson.

Form IVA –History Lesson

This class consisted of 9 Deaf students, seated facing each other. The teacher's innovativeness of using ICT (overhead projectors) enabled Deaf students to see and make a follow-up on what the teacher was teaching. Regarding communication and teaching, the teacher frequently used sign language in the entire lesson. Given that the teacher was bilingual, he regularly navigated between the modes – signed and spoken languages. For example, he instructed in Kiswahili and sign languages for students who would not mouth. Similarly, he wrote most of the concepts on the board and explained them afterward.

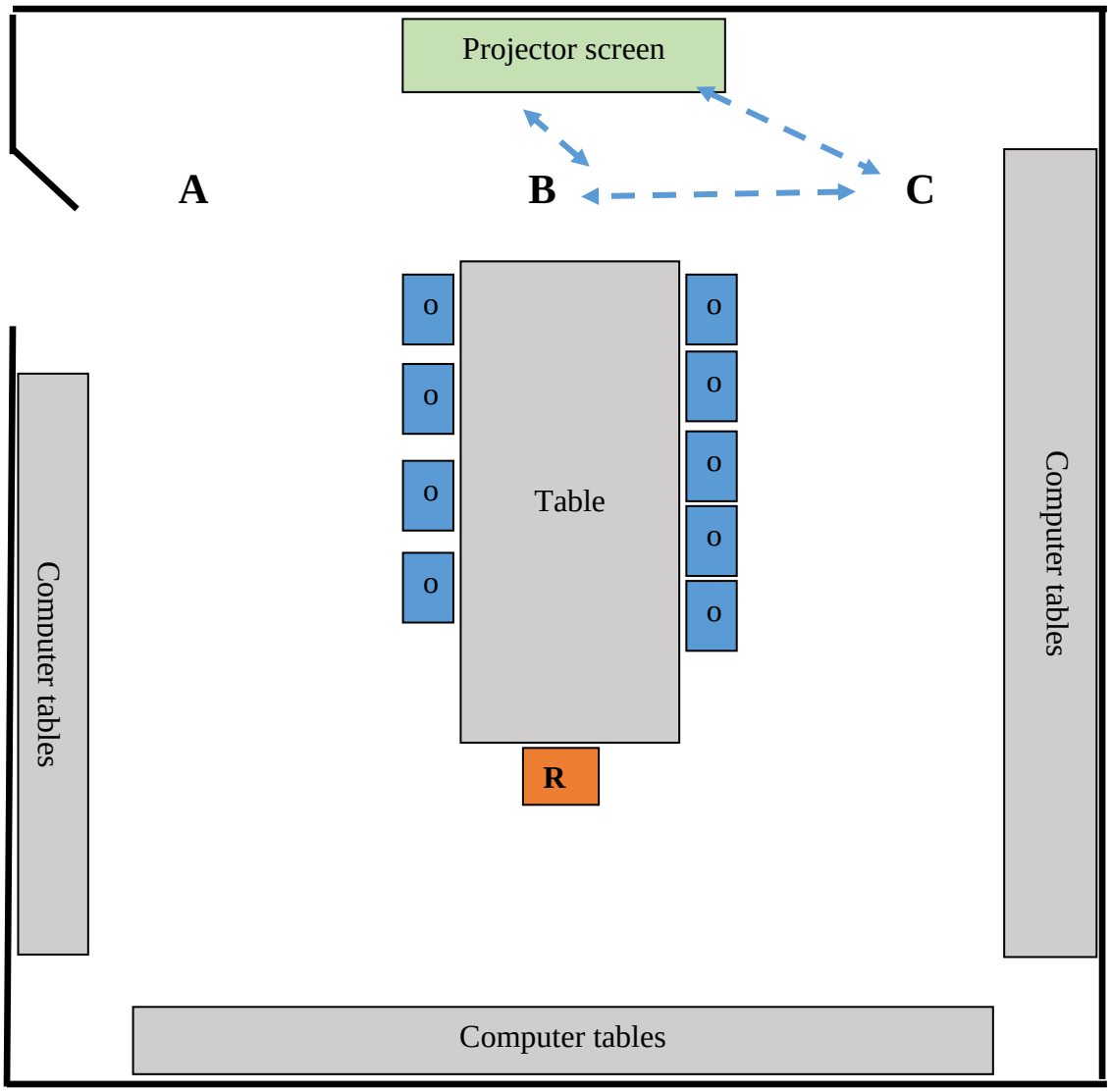


Figure 40: A class of Deaf students

The teacher's approach of teaching was mainly participatory to allow students to engage in forming signs of novel concepts. For example, the teacher involved students to form a sign for 'Wanyamwezi[16]'. Aspects of school culture and inclusion of Deaf students in schools are cross-cutting aspects that are observed in everything that takes place in a school. As it will be discussed later, depicting culture as a separate school entity is quite unlikely, instead, it is in every facet of school life.

[16] People belong to the major tribe found in the western part of Tanzania.

7.5.4 Analysis of Documents

The documentary analysis focused on two areas, namely;

i. Deaf students' accommodation
ii. Deaf students' academic progress

The analysis has been done in line with education provision guidelines as highlighted in the Nation Education Policy (2014) and the National Strategy for Inclusive Education (2009). Hence, the analysis involved examination of the school programmes and national examination results.

7.5.4.1 Deaf students' learning accommodation

Two areas were identified as the focus of the documentary review. These areas were the school programmes and classroom teaching accommodations. With school programmes, it was found that all three schools complied with the curriculum for ordinary level secondary education. Therefore, the classes ran from 7:30 am to 14:30 hours, whereby, lessons were scheduled for 40 or 80 minutes.

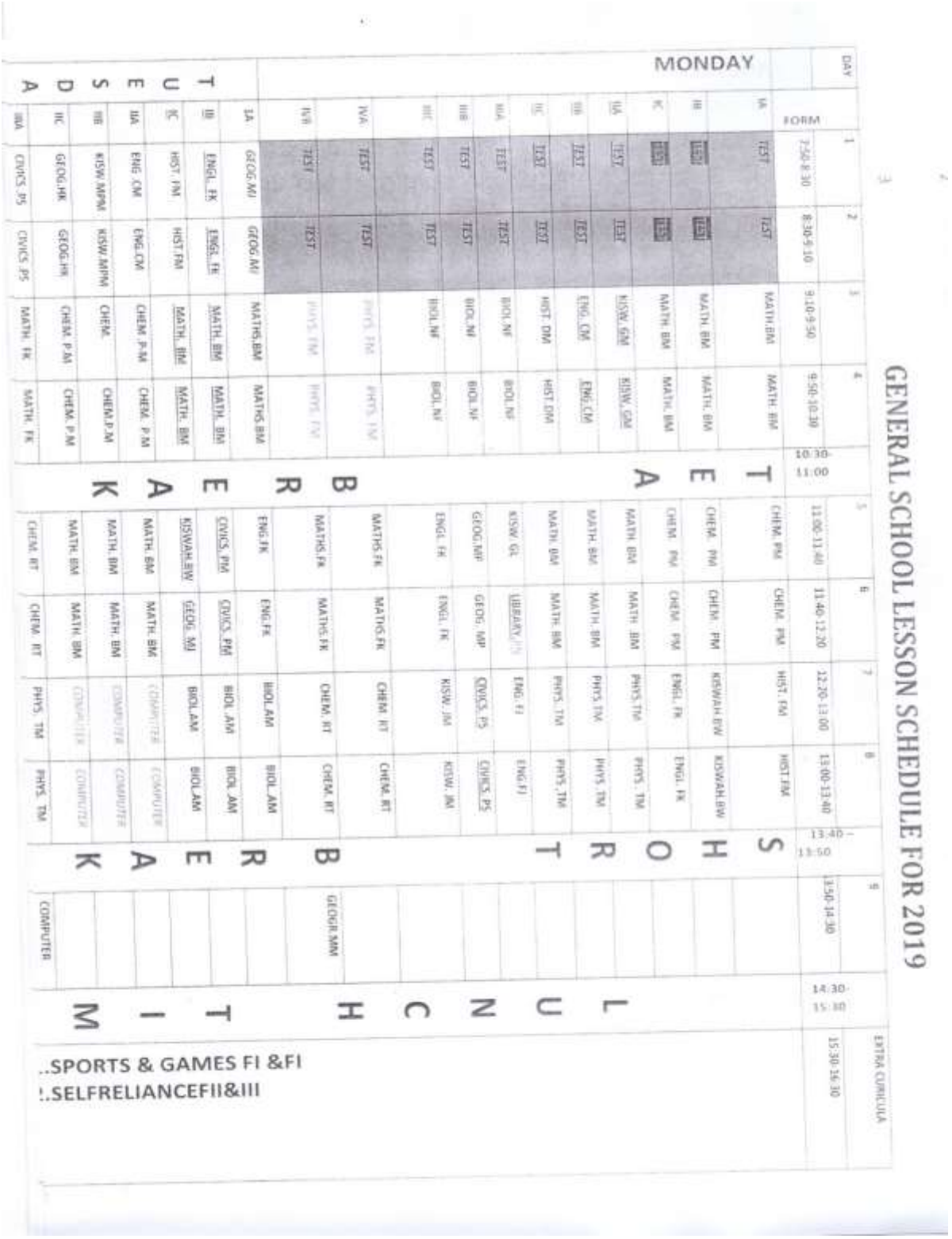


Figure 41: General school timetable for school Y

Figure 41 is a sampled of the school programmes in the respective three schools involved in the study. As one may learn from it, the school programme was tight Monday through Friday and students were engaged in regular class sessions for 7.5 hours daily. For Deaf students who mostly use their eyes to capture and process information, the tight school programme had serious implications.

Nonetheless, the programme indicated that students could have time for private study usually after 5 pm and beyond. This was the time after 7.5 hours of full engagement in a classroom lesson, hence it may be obvious that most students would need more time for leisure and other extra-curricular activities like sports, laundry, and personal hygiene.

7.5.4.2 Deaf students' academic progress

The comparison of the enrolment of Deaf students in Form Two and Form Four is key to understanding the academic progression of Deaf students. Five years of analysis is equally important in understanding and establishing a trend of Deaf students' academic endeavour in secondary education. This section, therefore, composes two subthemes: the enrolment students and the examination results of Deaf students between 2015-2019.

i. The enrolment of Deaf students

A fluctuating enrolment rate of Deaf students between the two classes was a cross-cutting phenomenon among the schools that were involved in this study. The number of Deaf students enrolled in Form Two class was twice as large as those who were registered in Form Four.

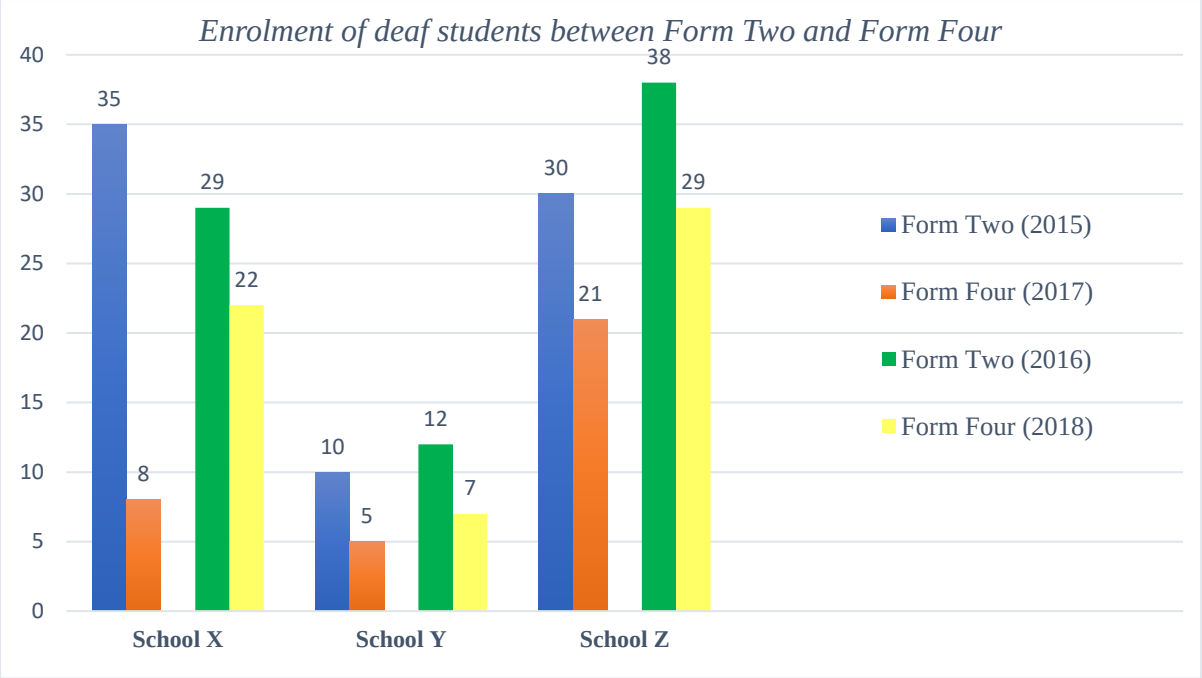


Figure 42: Enrolment of Deaf students

Figure 42 above shows a drastic decrease of the Deaf students who reached Form Four level. For example, at school X, out of 35 students who were registered into Form Two in 2015, only 8 students were able to reach Form Four within the regular schedule of study. This means that 77.1% (*N=27*) of Deaf students did not complete their studies within the prescribed time of the study. However, the situation seemed to have improved in 2016 where the difference between Form Two and Form Four was only 7. It may be true as well that the number of Deaf students enrolled in Form Four in 2018 was influenced by repeaters who would have not made it to Form Four in the previous years (2014-2016).

A similar situation appeared to face Deaf students at school Y. In this school, over 40% of Deaf students failed to complete their education circles within the prescribed time. For example, half of the class of Form Two in 2016 (*N=5*) failed to make it to Form Four in 2018. This means that 42% (*N=5*) of the Form Two class of 2016 failed to complete their Form Four in 2018.

On the other hand, school Z had come up with a different scenario but of the same caption. In the first place, 30% (*N=9*) of the Form Two class in 2015 did not manage to finish their Form Four in 2017. Similarly, in the year 2018, 29 students were registered in Form Four compared to 38 Deaf students of the same class who were registered to Form Two in 2016. This means

that 23.6% (*N=9*) of students who were registered in Form Two were not in the position of completing their education cycle in the respective time.

Thus, Figure 42 gives the view that the progression of Deaf students academically differed from the type of school in which the student was admitted. At least we can learn that Deaf students are likely not to do better in inclusive schools as compared to when they are placed in the special school for the Deaf.

ii. Examination results of Deaf students

This section covers the analysis of the examination results of the Deaf students in Form Two and Form Four within five years (2015-2019). The analysis involves the context of particular school culture. Hence, each school is analysed separately and thereafter, I have the general analysis. Regarding the grading system, the categories of division are analysed as indicated in Table 14:

Division category	Specific description	General description
Division 1	Distinction	Pass
Division 2	Good	Pass
Division 3	Average	Pass
Division 4	Poor	Pass (unsatisfactory)
Division 0	Very poor	Fail

Table 15: Description of the grading categories

With respect to Table 14, divisions 1 to 3 indicates that students have passed; hence, they can advance to the next level of formal education. On the other hand, divisions 4 and 0 indicate unsatisfactory pass and failure respectively. Therefore, Form four students achieving the two poor divisions in the national examinations cannot proceed with formal education while Form two students who score division 4 can move to the next class.

School X

Deaf students' examination results had been very low consistently in the five years of analysis. Unlike Form Two examination results (FTER) of which Deaf students indicated to be performing relatively better, the same Deaf students who get into Form Four ended up getting division zero or division four (lowest passes).

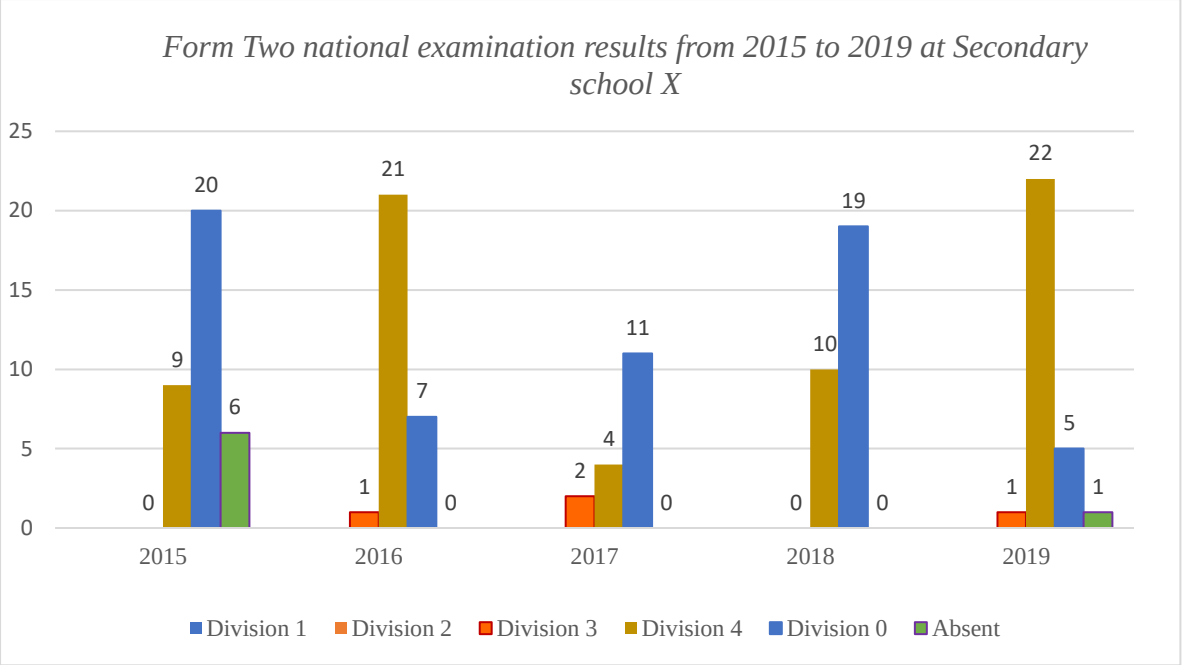


Figure 43: Examination results of the Deaf

Regarding the FTER, Figure 43 indicates that out of the 139 Deaf students who were registered at school X from 2015 to 2019, only 4 students were able to score division 3, and 66 students got division 4, while 62 students got division 0. With these statistics, 50.1% (*N=70*) students qualified to proceed to the next grade while 49.6% (*N=69*) students either repeated the class or dropped out of school. The performance of Deaf students who managed to proceed to Form Four is shown in the table below.

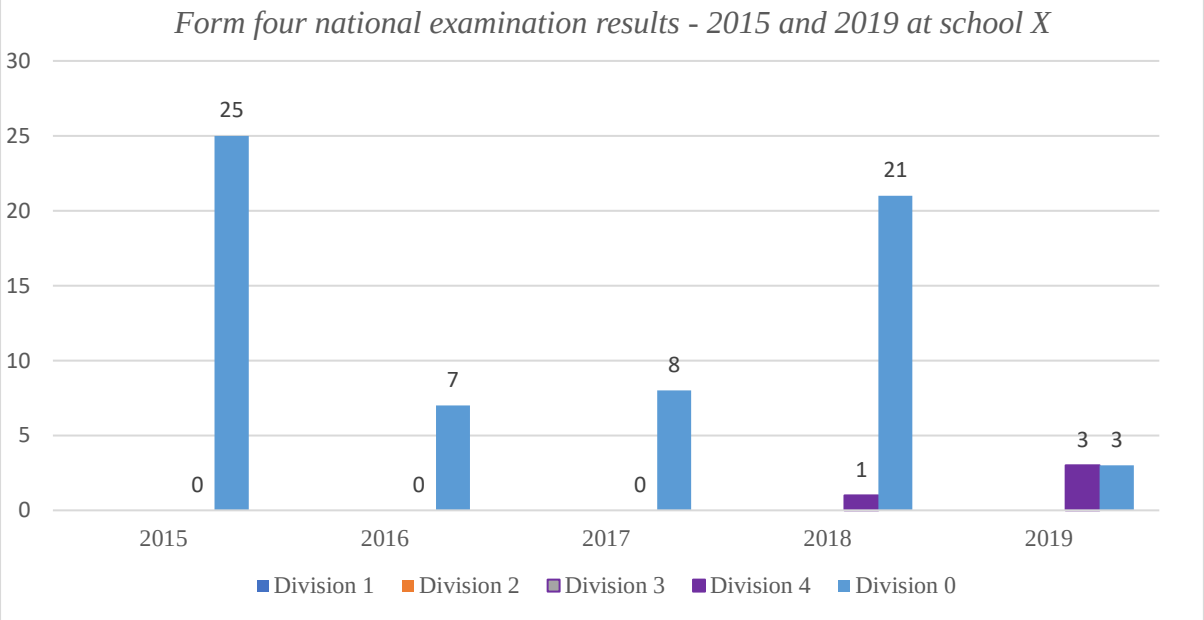


Figure 44: Examination results of the Deaf

The results in Figure 44 shows that the Deaf students had been consistently getting division 0 throughout the five years of analysis. It shows that 67 students were admitted to the Form Four class and they sat for the Form Four National Assessment (FFNA). However, among them, only 5.8% (N=4) of the students attained division 4 whilst 94.2% (*N= 63*) students got division 0.

In this regard, Deaf students were doing far much better in the lower classes rather than in the higher ones. These results suggest that the learning environment for Deaf students in higher classes is more demanding and hardly responds to the needs of Deaf students. Comparing their performance with that of the hearing students, the variation in the examination results is enormous (see Figure 45).

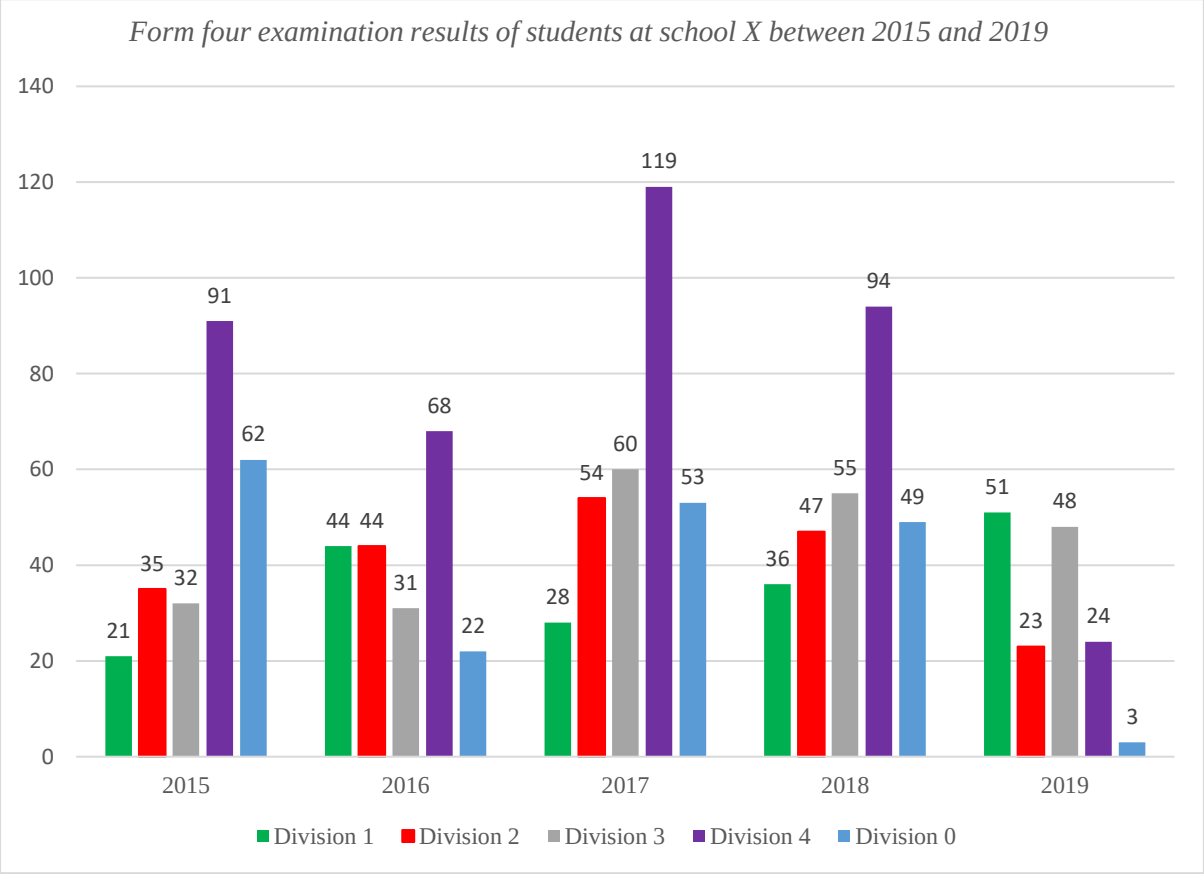


Figure 45: Examination results of all students

The columns in Figure 45 indicate that students had been attaining variable grades throughout the five years. Comparatively, the number of students who scored division 0 is lower compared to the total of those who scored division 1 to 4. Thus, Deaf students had been consistently attaining division 0 across the study years. For example, out of 189 students who got division 0 in the five years, 34% (*N=64*) were Deaf students. Despite the percent of the

Deaf students in the failure line being less than 40%, the composition of the class indicated that 34% was almost the whole class of Deaf students. The table below indicates the comparison between hearing and Deaf students across the five years.

	2015	2016	2017	2018	2019
Hearing students	216	202	306	259	143
Deaf students	25	7	8	22	6
Ratio	1:08	1:29	1:38	1:12	1:24

Table 16: Deaf-hearing student ratio in class

Table 15 reveals that Deaf students are composed of a small portion of the school population. Despite the population being interpreted as an insignificant one, on the other side it reflected the natural experience of Deaf students' life.

Generally, teaching Deaf students separately in their classes while allowing them to interact with hearing students in science subjects calls for research regarding the quality of teaching between the classes of hearing and Deaf students.

School Y

Just like those at school X, Deaf students at school Y continually displayed lower passes across the years (see Figure 46).

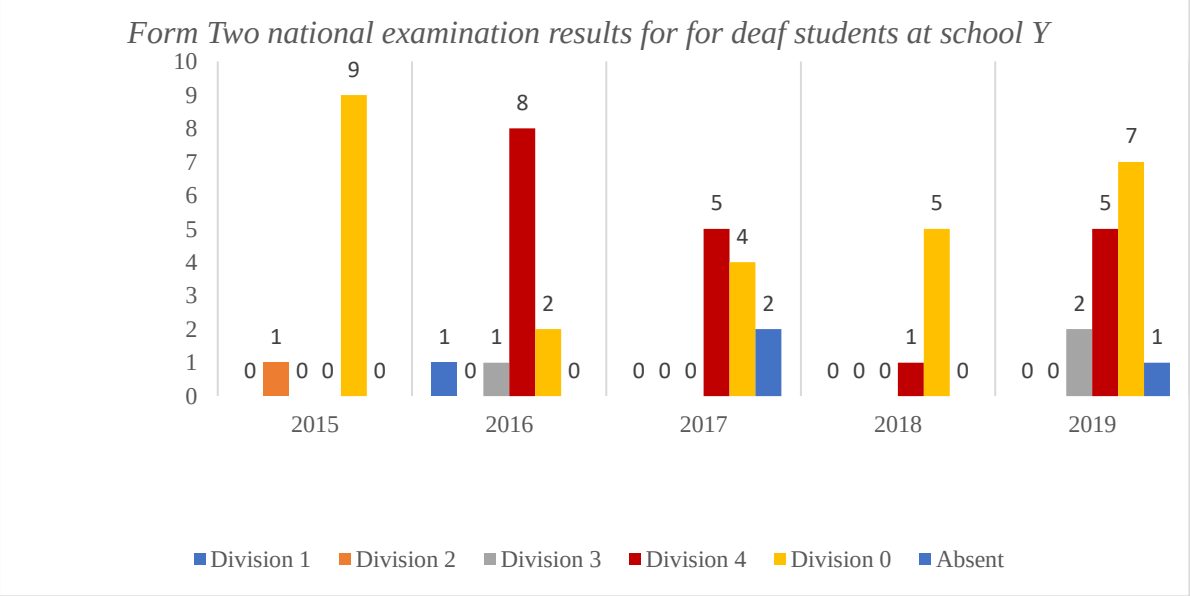


Figure 46: Deaf students' examination results

As Figure 46 indicates, most Deaf students scored lower grades in their examination results. For example, the graph shows that division 4 and division 0 were the dominant grades among

Deaf students since 2015. That is, out of a total of 54 Deaf students who were registered in Form Two between 2015 and 2019, 9.2% (*N=5*) students were able to attain upper divisions (division 1, 2, and 3), whilst 90.8% were scored lower divisions (division 4 and 0). Worst still, out of the 90.8%, a large portion of 55.6% (N=30) students got division 0, hence, they were not able to advance to the next grade. It implies that such students either repeated the class or dropped out of formal education.

Consequently, we can witness the regressive trend of Deaf students' progression to the Form Four level. As it is indicated in Figure 52, of 54 students who registered for the Form Two National Assessment (FTNA) between 2015 and 2019, two-third of it – 66.7% (*N=36*) – were able to register for the FFNA between the same framework of analysis (see Figure 47).

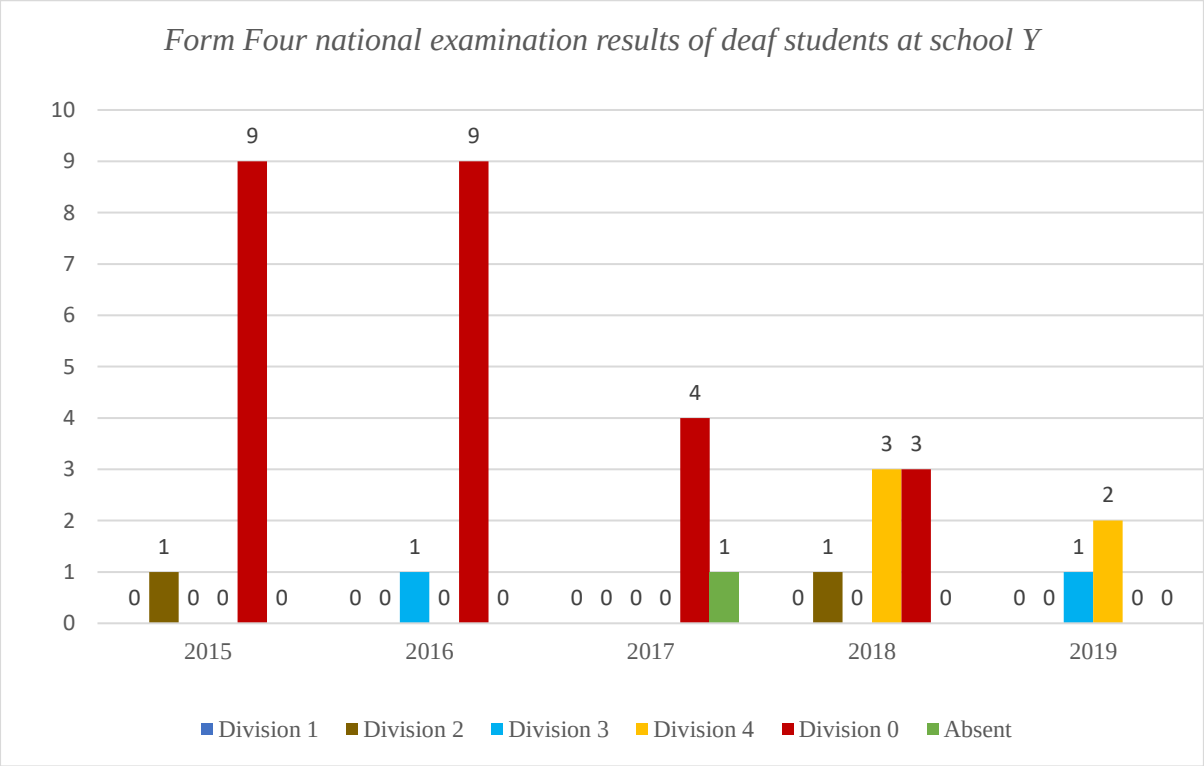


Figure 47: Deaf students' examination results

Figure 47 indicates that Deaf students had consistently been attaining division 4 and 0 throughout the five years whilst only 4 Deaf students achieved division 2 and 3 in five years. We may learn further that most Deaf students counting to 69.4% (*N=25*) got division 0 within the five years. Comparatively, the academic performance of Deaf students indicated to be consistent in FTNA and FFNA in the sense that over 50% of Deaf students never succeeded to attain a minimum pass.

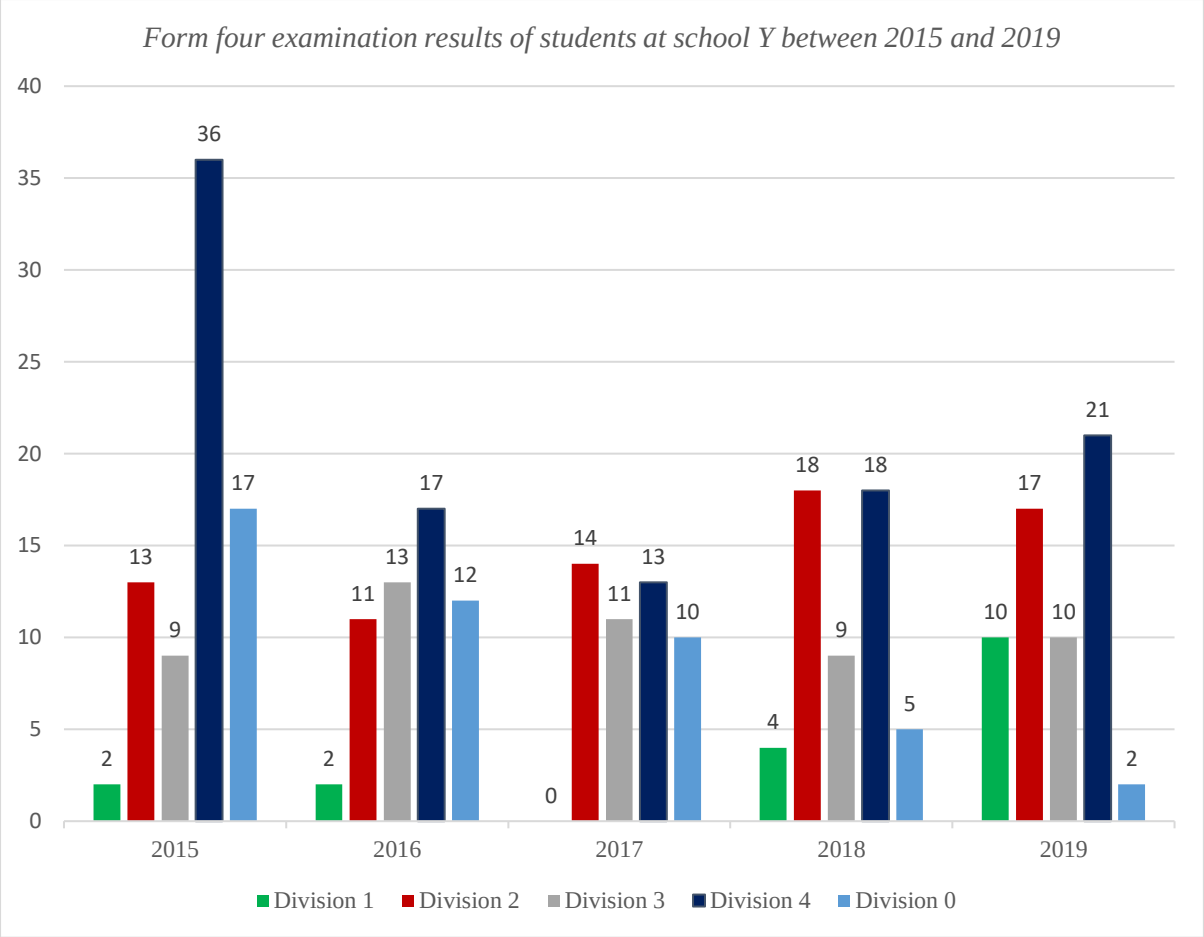


Figure 48: General examination results

Comparing with hearing students' academic achievements, a big percentage of students who got division 0 was composed of Deaf students. For example, out of 36 students who got division 0 within the framework of five years, 72.2% (*N=26*) students were Deaf. From one perspective, a failure rate of less than 16.2% within five years may look like a good result, however, when considering the results of Deaf students separately, a different picture emerges since 72.2% of these students failed.

	2015	2016	2017	2018	2019
Hearing students	77	55	48	54	60
Deaf students	10	10	5	7	3
Ratio	1:8	1:6	1:10	1:8	1:20

Table 17: Deaf-hearing student ratio in class

The performance comparison between hearing and Deaf students is unbalanced. However, it is within that comparison that the Deaf students experience natural contexts of inclusion. Hence, it could either motivate or demotivate those Deaf students to develop their communication and language identity.

School Z

Findings on the performance at School Z have indicated that Deaf students had continuously attained the lowest grades in their examination results within the five years of analysis. The Deaf students demonstrated a high level of poor grades in both class levels of analysis. Figure 49 shows those grades in the respective years.

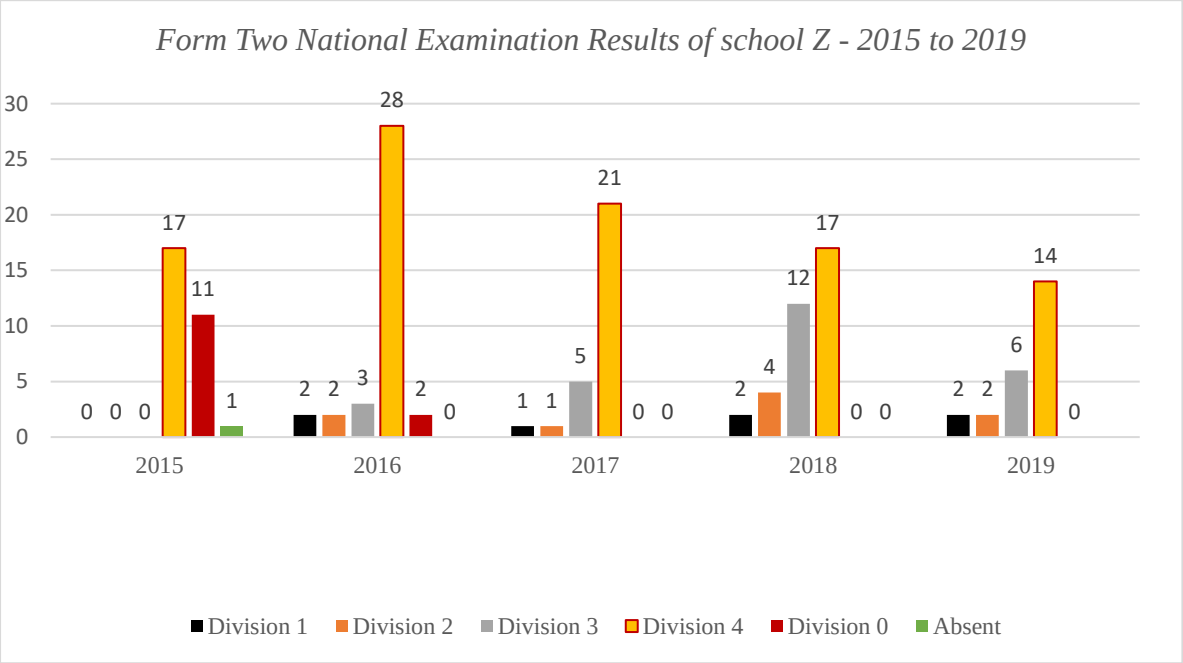


Figure 49: Examination results of Deaf students

Figure 49 shows that the majority of Deaf students were scoring division 4 while the possibility of getting division 0 was consistently reduced. Although the trend indicates a regressive progression of attaining divisions 4 and 0 as the years advanced, columns of division 4 maintained high peaks throughout compared to other divisions. Consequently, the majority of the students who proceeded to the next class level were of low academic capability – of course, this as well determined the achievements of such students in the FFNA. Figure 49 explicates the achievements of Deaf students in the FFNA results from 2015 to 2019.

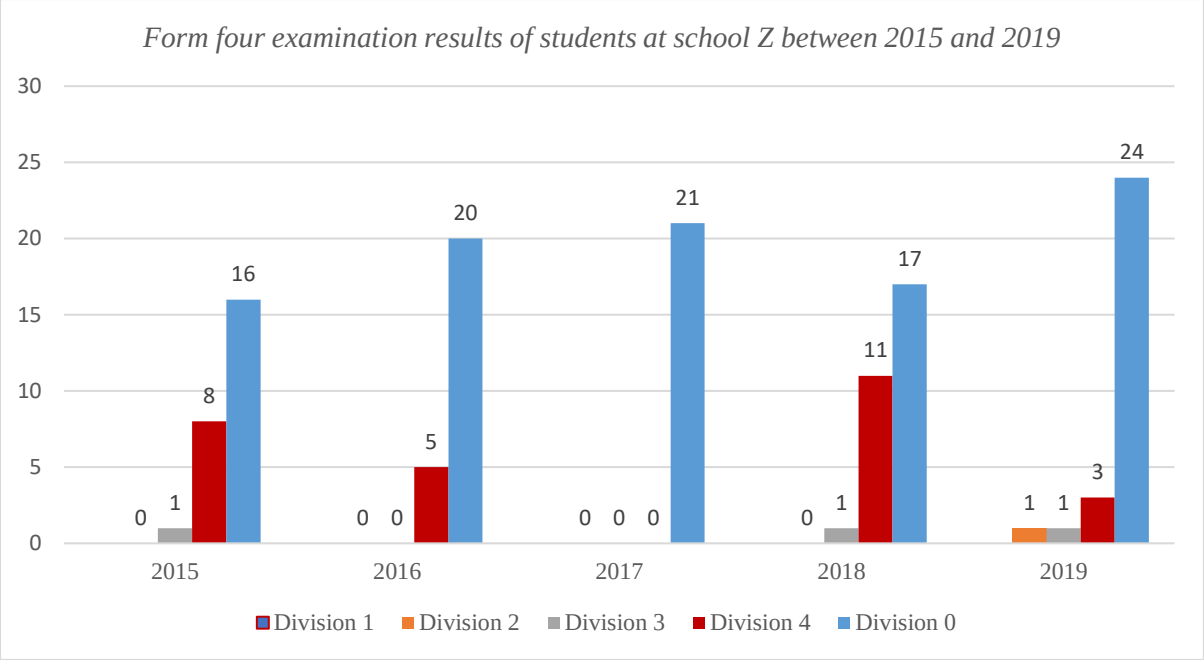


Figure 50: Examination results of Deaf students

In reference to Figure 50 above, it is clearly shown that Deaf students had maintained their performance by attaining lower grades in their FFNA results. From the statistics above, out of 129 Deaf students who sat for the national examinations from 2015 to 2019, only 2.3% (*N=3*) students were able to get division 3 while 1 student attained division 2. Hence, 75.9% (*N=98*) students got division zero, 20.9% (*N=27*) got division four, 2.3% (*N=3*) got division three, and 0.8% (*N=1*) got division two.

7.6 Conclusion

This chapter has clarified the analysis procedures that were involved in the reduction and simplification of the data. Being in line with the design of this study, the Interpretive Phenomenology Analysis (IPA) procedures have been adhered to. However, the choice of each procedure has been assessed basing on its strengths of condensing the data for further interpretation of the findings. In line with qualitative research, narratives and interpretation of the findings have been given appropriate weight. Since IPA needs the researcher's ability and experience of interpreting the phenomenon, I did not distance myself from the interpretation. An overview of the findings in this chapter shows the following:

- δ Cooperation between Deaf and hearing students was found to be very poor.

- δ The morale of teachers who were teaching Deaf students was very low, as a result, Deaf students did not benefit adequately with classroom teaching. Consequently, there was no chance for teachers to enable responsive learning environments for the Deaf.
- δ All schools adhered to the prescribed curriculum for ordinary level secondary education in Tanzania, in which aspects of Deaf education were not part of its content and pedagogy Regarding the academic progress, 83.4% of Deaf students failed in their examinations by scoring division 0 whilst over 40% failed to make it to Form Four within five years (2015-2019) framework. Therefore, the columns show that division 4 and 0 were the most possible and dominant grades for Deaf students in all assessments.

Generally, the school cultures of inclusive schools called for further research. In line with the analysis data in this chapter, in the next chapter, we have synthesized these findings with the available literature to support the thesis of this study.

Chapter Eight

Discussion

8.1 Introduction

This study aimed to explore the first phase of inclusive education in Tanzania. Given that this is the first research done in the area of inclusive Deaf education since its inception in 2010, the main research question focused on evaluating the milestones reached by Tanzania on its efforts to implement the inclusive education agenda. Thus, specific research questions focused on the following areas specific areas which formed the objectives of the study as explained in Chapter One of this research: 1. Cooperation and collaboration between hearing and Deaf students; 2. Responsiveness of the learning environments for Deaf students; 3. The learning accommodation of the visual learning needs; and 4. The academic progress of Deaf students was enhanced by education policies and practices. As will be witnessed later in this chapter, specific objectives of the study are discussed in line with emerging themes. Hence, this chapter is organised in three parts. Part one takes the reader through the categorization of schools in Tanzania. Hereafter, the reader is oriented to the education situation in the country –this is different from section 2.4 of Chapter Two. Part two of this section contains the discussion of the strategy for the implementation of inclusive education in which various strategies and processes are discussed along with the findings of this research. Lastly, part three of this chapter contains the synthesis of the themes as they have resulted from the findings of this research.

8.2 Part One: Categories of schools

The category of schools is discussed congruent to the placement of students in schools. Hence, this study has identified three types of secondary schools: regular secondary schools, inclusive secondary schools, and specialized secondary schools. In this part, only two categories – inclusive and specialized – are discussed based on the research findings.

i. Inclusive schools

Inclusive schools, as is discussed in this section, takes students' learning ability and possibility as the gist of inclusion itself. As it has been analysed in Chapter Seven, school contexts are well examined in relation to students' placement and learning possibilities. With the inclusion of Deaf students, the analysis indicates that inclusive schools have diverse approaches for the inclusion of Deaf students. When one school was evidenced separating

these students in specific classes in some subjects, the other puts all Deaf learners in the same class. Despite that there are no specific policies for the same; the two schools are quite different in terms of how they approach inclusive education for Deaf students. Hence, it was evidenced that there were two sub-categories of inclusive schools with Deaf students as follows:

a. Partial inclusion (School X)
b. Total inclusion (School Y)

Notwithstanding the above sub-categories, it was evident that Deaf students' learning possibilities were narrowed on the fact that most of those students were desperate about their educational destiny. Adjusting the school policies, teachers' teaching tendencies, and hearing students' interactional behaviours were fundamental to the successful implementation of inclusive education.

School X

The analysis of findings indicates that the placement of students was done in relation to the students' ability to hear sounds. Hence, Deaf students found themselves being placed in their classes quite different from those of the hearing students. Consequently, Deaf students' chances to interact and share their experiences and learning were narrowed. Supporting this, in his study 'The challenge of inclusive schooling in Africa', Dei (2005, p. 282) highlights exactly how educators conflict with their wishes to that of the students' diversities. He advises that "…inclusive schooling is about accommodating politics regarding the unity in difference and unity in sameness" (ibid). Hence, failure to acknowledge the unity in difference – this is interpreted from the separateness of students – leads to the negation of the difference which has necessarily impacted on teachers' pedagogical choices and Deaf students' academic performance.

School Y

The analysis done in Chapter Seven has explicated the prevalence of isolative tendencies among students and teachers even though the school adopted a total inclusion approach. With total inclusion, total immersion of Deaf students in the school mainstream applied to all the school activities. Hence, students could cherish their differences and build a strong bond of friendships and cooperation. However, the available policies and directives had a strong influence on building a strong culture that both acknowledged and responded to the learning

differences of each individual. Hence, this resulted in making the school a safe environment for students. Emphasizing this, in analysing how to build an inclusive culture, Reno et. al, (2017, p. 423) found that an inclusive environment can only work if students find it safe and accommodative in a manner that they can have a feeling of belonging and become ready to learn and socialize with hearing peers. Building on this background, this study found a contrary situation in which communication and teachers' pedagogical choices were typical indications of the continuance of covert policies which resulted in excluding Deaf students from the entire school community, consequently, the school becoming a restrictive learning environment for the Deaf.

Generally, in their research on inclusive education, Scanlon & Baker, (2012, p. 213) indicated that variability among teachers regarding their approaches towards inclusive education has great impacts on classroom teaching and modelling school tendencies. They submit that regardless of being one school, teachers usually hold their perceptions and attitude on ways of handling their students. This is in line with what Dei, (2005) highlights on the implementation of inclusive education when he asserts that "inclusive education is aligned with the complex politics of 'unity in difference' and 'unity of sameness'…". Basically, these two units are oriented to persons' backgrounds and identities; hence, affirming diversity or conforming and accepting the dominant as the norm respectively. Thus, Dei (2005, p. 282) establishes the need of the school to accommodate policies that would compose the unity of the members of the school through reducing conflicts and tensions that may result in persons' differences. In this line of thinking, this study agrees with Dei (2005) that "complex politics of difference can at times blur the lines between the twin discourses of 'unity in difference and unity of sameness". Thus, it was from this background that this study discovered the reality that the implementation of inclusive education in Tanzania did not conform with Deaf students' learning diversities, but rather, was guided by the politics of the 'unity of belief' as opposed to Dei's (2005) earlier proposal. In this research, 'unity of belief' concerns with dreams that diversities between persons may be reduced as the context of inclusion is broadened. Hence, there are no purposeful strategies that are needed to level the differences. This is what is implicated in inclusive schools in Tanzania which shows that Deaf students can simply learn by being placed together with hearing students even though nothing is done to level or narrow their diversities.

ii. Specialized school

A specialized school is seen in the light of students' placement. As it is discussed in section 7.3.3 of this research, the type of students who are accommodated is considered to be bounded by the 'unity of sameness' as opposed to the 'unity in difference' (Dei, 2005). In this respect, one school was identified to be a specialized school for Deaf students. Hence, the next sub-section discusses the 'unity of sameness' of students' diversities and the school learning accommodation strategies.

School Z

The analyses of school documents and observations made uncovered that the school followed the 'general national education curriculum' which was exactly implemented by all schools in the country. On the other hand, a large number of teachers were neither trained in Deaf education nor had competence in sign language. Hence, this fact contradicts the primary mission of the school which is to create in the school a less restrictive environment for Deaf students. Consequently, teachers' pedagogical practices and communication were typically regular and hardly aligned with the school motto – 'Education for Liberation' – which was the typical indicator for school priorities and mission. In analysing the contexts of school cultures for informal teacher learning, Jurasaite-Harbison & Rex, (2009) showed how school structures impact on teaching and behaviours of teachers and vice versa. Their findings are contrary to the current study which has shown that teacher behaviours have impacted significantly on the school tendencies. However, findings of this study have indicated to be consistent with Meier, (2012) who found that teachers are catalysts in influencing school relations and students' tendencies towards one another. Typical of this background, the relationship between teachers, students and school tendencies are explicitly discussed in part two of this chapter which deals with policy context and part three which is the synthesis of the themes.

8.3 Part Two: Policy Context

One of the ideological underpinnings of inclusive education in Tanzania is the human right to education (URT 2009, p. 11), as pronounced by the Universal Declaration of Human Rights (1949). According to the Inclusive Education Strategy (NSIE) 2009-2017, inclusive education acknowledges personal diversity as a human reality (URT, 2009, p. 11). However, the push towards inclusive education in Tanzania has been attributed to different international protocols

that the country signed and some acts and policies which were ratified by the government. The NSIE (2009, pp. 11-13) has outlined these protocols which include:

i. The UN Conventions on the Rights of the Child (1989) which stipulates the rights to education in order to achieve the degree of self-reliance and social integration;

ii. The Jomtien World Declaration on the Education for All (1990) which highlights the commitment to a child-centre pedagogy and where individual differences are welcomed as challenges and not problems;

iii. UNESCO Salamanca Statement and Framework for Action (1994) which reinforces the obligation for schools to accommodate all children regardless of their disabilities;

iv. The Dakar World Education Conference (2000) which establishes a framework for inclusion of children with various educational challenges; and,

v. Article 24 of the UN Convention on the Rights of Persons with Disabilities (2006) which requires members of the UN to organize and provide education to persons with disabilities.

At the national level, different Acts and policies that were ratified by the country established a foundation for the establishment of inclusive education. The NSIE 2009-2017 (URT, 2009, pp. 12-13) outlined some of these Acts and policies which include:

i. The Education Act (1978) which enforces a compulsory attendance to school at the primary level of education. It states, “no person may be denied opportunity to education…education for the reason only of his race, religion, political or ideological beliefs”;

ii. The Education and Training Policy (1995) which gives emphasis on the right to education to all persons;

iii. The Child Development Policy (1996) which protects the right of the child, access to education being one of them;

iv. National Policy on Disability (2004) which needs the government, in collaboration with stakeholders, to provide a conducive education that cares for the special needs of children with disabilities; and,

v. The Education Sector Development Programme 2008 – 2017 which emphasizes the access to basic education by all persons.

All the above policies oriented the world and Tanzania, in particular, to set fairgrounds for provision of human rights to every individual regardless of one's disability status. Regarding the provision of inclusive Deaf education in Tanzania, three policy documents namely the NSIE 2009-2017, NSIE 2018-2021, and Education Policy of 2014 were studied in relation to the objectives of inclusive education in Tanzania. Figure 51 shows the diagrammatic representation of the goal and objectives of inclusive education in Tanzania.

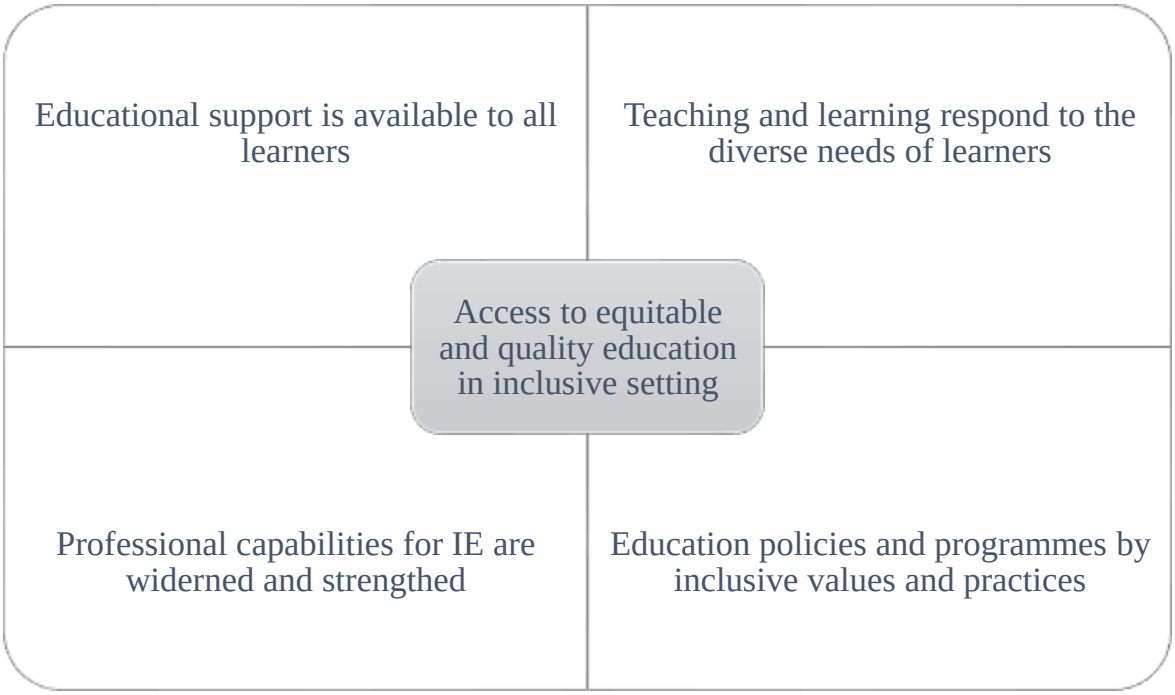


Figure 51: The intended goal of inclusive education in Tanzania (URT, 2009)

Given the above goal, four themes emerged from the analysis of the aforementioned three documents. These themes are discussed in the next sections.

8.3.1 Education support to Deaf students

According to the National Policy of Education (NPE), the current organization of education in Tanzania aims to provide an opportunity for Deaf students to learn and acquire adequate knowledge that would empower them to contribute to the national development (JMT, 2014,

p. 20). The intended acquisition of knowledge is paralleled with the elimination of all sorts of barriers that might affect Deaf students in their efforts to attain adequate knowledge and skills (JMT, 2014, p. 22). In support of this view, the strategy establishes a need to provide adequate resources that will transform schools to become more responsive to the needs of learners and teachers (JMT, 2014, p. 2). In this view, the provision of adequate resources is in line with the identification of barriers to presence, participation and learning that learners may experience. Thus, the role of identification of barriers and developing the means to overcome these barriers remain the school's specific responsibilities (ibid, p. 4). However, the analysis of school observations indicated that schools in Tanzania had not demonstrated significant efforts to reduce the barriers to the presence, participation and learning for Deaf students. This is evident owing to the fact that in all the three school, the main modality of communication was spoken language. It is not appealing to learn that Deaf students faced a communication block which is contrary to Knoors & Marschark, (2014, p. 15) who emphasize that communication is key to the education of Deaf students because it is through communication adequacy that Deaf students can get access to information and learning in an inclusive context. This is also underscored by the NPE which establishes the need to use sign language as the language of communication at all levels of education (JMT, 2014, p. 37).

8.3.2 Teaching and learning in diverse inclusive schools

Inclusive education in Tanzania is considered to be a systematic change that requires the development of new knowledge and relevant skills to teachers, students, and administrators (URT, 2009, p. 5). Hence, the Ministry of Education proposed to develop an inclusive curriculum (ibid, p. 4). However, the analysis of the syllabus, official directives and the Education Policy has suggested that the available curriculum was the general one which hardly accommodated the learning needs of Deaf students.

The analysis of classroom observation and teachers' preparation of the lesson showed that the teaching and learning practices aligned with regular students' communication normalcy. Hence, Deaf students remained puzzled on how to cope with learning in an inclusive class. This is however contrary to policy articulation that states:

> "To improve communication access, learning materials can be enriched; and the learner is encouraged to develop thinking in their first language. Therefore, sign

> language as an alternative means of communication can be used as an addition to spoken languages" (URT, 2009, p. 29).

Aligning with the policy background, Knoors & Marschark (2014, p. 24) emphasized on the need to differentiate the modality lies of teaching and communicating with Deaf students in an inclusive school. They establish that "…teaching Deaf learners should not be the same as teaching hearing students". This stimulates the need to teach Deaf students through adopting relevant teaching methods, including work partnerships among students and teachers (Adoyo, 2007, p. 5).

8.3.3 Professional capabilities for inclusive education

The provision of quality education in an inclusive setting depends on an interplay of many subsets of the school system including (but not limited to) the quality and implementation of curriculum, education leadership and supervision, learning context, assessment criteria and resources available (JMT, 2014, p. 25). Similarly, inclusive education demands the widening and strengthening of professional capabilities of all education practitioners (URT, 2009, p. 38); which includes the involvement of different stakeholders such as the teachers, school boards, parents and inspectorate departments (JMT, 2014, p. 26). Putting more emphasis on it, the National Policy of Education - 2014 clarifies that teacher training need to be supervised to ensure that they produce teachers with good quality and adequate knowledge to handle diversity in inclusive settings (JMT, 2014, p. 26).

Contrary to that, however, the analyses of findings in this study revealed that teachers had inadequate exposure to Deaf culture. This is following the fact that teachers were still bound by the belief that Deaf students were incapable intellectually and academically, and this had adverse effects on building a strong Deaf culture in the schools studied. This argument is consistent with that of Storbeck & Magongwa, (2006, p. 120) who found that "Deaf culture is affected by a plurality of individuals' culture". This argument is rather valuable in its capacity of instituting the need for complexities of inclusion and handling diverse learning paths in inclusive schools (Alexander, Schallert, & Reynold, 2009, p. 176).

8.3.4 Education policies and programmes that reflect inclusive education values

Policies and programmes play an important role in the effective implementation and running of an education system. Inclusive education is unlikely to be realized without inculcating the

necessary clauses throughout all principles, policies and cultures within the education sector (URT, 2009, p. 23). Connected to inclusive education, Deaf students and students with disabilities feel belonging to the environment that enables them to feel like being part of the entire school community. Hence, the formulation of mutually inclusive education policies is the role of the school, community, councils and regions and all education stakeholders (URT, 2009, p. 34). Thus, to ensure that there are formulations of inclusive programmes in schools, several strategies are established.

Raising awareness on inclusive education, the strategy clearly states that there is a need to develop a common vision and language on inclusive education (URT., 2009, p. 43). In order to enable a common understanding of inclusive education, the strategy identifies several activities including (but not limited to) i) sensitization workshops about inclusive education which will be meant for communities and at all administrative levels of education, ii) schools will be needed to welcome all learners regardless of their disabilities. On this note, the school staff will be engaged on the wider scope and understanding of inclusive education, iii) collaborative relationships among and between the school, parents and community will be emphasized. This is meant to promote mutual respect through various activities.

With collaborative relationships, Russel-Fox (2001) quoted in Adoyo, (2007, p. 10) has observed that for an effective inclusion process, a professional relationship should be developed with audiologists, speech therapists, sign language interpreters and hearing specialists. This kind of working web will provide Deaf students with adequate services for their learning climate in an inclusive setting. In this regard, the analyses of findings have revealed that teachers of the Deaf have been exposed to three workshops that took place at the Archbishop Mihayo University College of Tabora at different times. The first one took place in January 2019, the second 23rd - 24th May 2019, and the third on 4th-14th September 2019. However, these workshops had all involved a few teachers from some schools with Deaf students. Apart from such workshops, the scrutiny of official documents has evidenced that there had not been any capacity-building training on inclusive education for specialist/regular teachers since 2010. Consequently, teachers were not equipped with the required competency and skills for accommodating Deaf students. This was evidenced by the fact that most teachers (75%) felt that accommodating Deaf students in regular secondary schools is a burden to their career. This typically is contrary to Russel-Fox's (2001) submission regarding building an inclusive community.

8.3.5 Identify and mobilize community resources for inclusive education

This activity is intended to motivate the community to contribute to the implementation of inclusive education agenda through the mobilization of community resources (URT., 2009, p. 45). Thus, it is established that since it is the responsibility of the Ministry of Education to ensure appropriate resources for education are available in schools, it is consequently the role of school communities to identify and mobilize these resources for inclusive education (ibid). Specifically, at each school level, it is possible to develop responses to barriers to presence, participation and learning through collaborative work between students, parental involvement and teachers' problem-solving strategies, mutual support and co-teaching (URT., 2009, p. 45).

It is further suggested that schools may carry out activities for parents using the language and culturally appropriate methods in specific regions (URT., 2009, p. 46). These outreach programmes, ultimately, may give more skills to parents of Deaf children and children with disabilities on how to assist their children in their homes. Furthermore, the strategy identified the following activities that ought to be taken; i) promote a culture of problem-solving and identifying existing resources with schools and communities by 2012, ii) develop guidelines on building school communities by 2011, and iii) develop opportunities for schools and educators to share their innovations in developing inclusive education by 2012 (URT., 2009, p. 46). However, data analysis and discussion of the policy context has found a big disconnect between policy articulation and practice which is discussed in detail in the next section. For example, data findings have shown that no schools have enhanced the culture of problem-solving among their students. This has greatly impacted the inability of students to interact with Deaf students, hence prolongation of exclusive tendencies.

8.4 Part Three: Synthesis of the themes

As stated in the previous section, the synthesis of this study is done in line with respective themes that emanated from data analysis. The themes are congruent with the research objectives highlighted in Chapter One which are aligned with the main research question described in section 8.1 of this thesis. Thus, the synthesis involves the integration of ideas and illustrative evidence from a wide range of sources to develop and support the findings which eventually leads to the development of the conclusion of this study.

8.4.1 The cooperation between hearing and Deaf students

The findings have demonstrated that inclusive schools experience unpredictable and rather unconducive relationships and collaboration among members of the entire school. In this regard, the status of the community of learning (CoL) in inclusive schools denote the availability of two different conceptual edges following different perspectives between the two groups – hearing and Deaf communities. This relationship and cooperation may have several backgrounds including social orientations towards one another. For example, some linguistic backgrounds may have an impact on the development of language and communication on one hand, and attitudes towards the other person on the other. Thus, the analysis of the findings has identified the following sub-themes to be the catalysts of cooperation among students, and therefore, CoL formation.

8.4.1.1 Attitudinal orientations among members of the school

In most instances, some negative attitudes among members of the inclusive school community have contributed to the weakening of CoL. Findings have shown that most Deaf students in inclusive schools are affirmative that they are being segregated by hearing students. This affirmation may be regarded as both a process and product of the school culture (Meier, 2011; Grover, 2014) as it reflects school values, customs, and controls towards Deaf students.

Interview with hearing students strongly revealed that 75% ($N=6$) of hearing students were comfortable studying with Deaf students although Deaf students could not easily render their cooperation in academic areas. The analysis strongly supports the continuance of negative attitudes towards Deaf students' academic capabilities. This finding is strongly supported by literature (Brons & Namirembe, 2018; Frida, 2014) that was conducted at different times but came up with the same results indicating that Deaf students were the subject of exclusion in education system in Tanzania. Consonant to these findings, literature has also identified that negative attitude towards Deaf students is a common situation in Africa, with many countries being exemplary, South Africa (Dalton, McKenzie, & Kahonde, 2012; Engerbrecht, 2006), Kenya (Adoyo, 2007; Gathumbi, Ayot, Kimemia, & Ondigi, 2015), Senegal (Drame & Kamphoff, 2014), Ethiopia (Hussein, 2008) and Botswana (Abosi, 2007). In this regard, Brice & Straus, (2016) have maintained that the prevalence of negative attitude results in a

lack of collaborative tolerance which is the epicenter of the relationship among members of the school community.

On the other hand, interviews with Deaf students revealed that 76.2% of them were not in favour of inclusive education and they were unconfident studying with hearing students. This is following the fact that the schools had not established enabling mutually interactive learning environments. Specifically, inclusive schools had hardly shown substantive evidence to have adopted serious mechanisms in establishing the interactive school culture. As Harbison & Rex, (2009, p. 268) points out, "culture is seen as a phenomenon constructed through interaction and communication among members of the school". Hence, inclusive school culture provides an inclusive learning space. This is strongly supported by Daniels & Steres (2011, p. 1) who affirm that the learning environment that is not adequately furnished with teachers' motivation is not student friendly.

Agreeing with this line of thinking, the analysis of data has drawn that age and teaching experience are key factors for influencing teachers' attitudes towards Deaf students. The interviews indicated that junior staff members totalling 75% (*N=9*) were less motivated to teach Deaf students compared to senior staff members 25% (*N=3*) who were motivated. This finding is counter-intuitive, and it has a lot to tell. It can be hypothesized that unsupportive learning environments in schools have demoralized junior staff spirit of teaching for which they need to spend part of their time thinking on how to teach Deaf students. Or it can be hypothesized also that these junior staff was inadequately trained both to understand and teach Deaf students.

The analysis indicated that most teachers who taught Deaf students had a negative attitude towards their students' academic capabilities. Of 12 teachers, only 33% (*N=4*) were of the view that Deaf students can afford their secondary education whilst female teachers were more positive as compared to male teachers. Potentially, this study involved only 25% (*N=3*) female teachers while male teachers made a large stake. This ratio made the study to be in favour of male teachers. However, gender biasness reflected the national overview over gender imbalance on teachers' employment in which males constituted a larger portion. Despite the small portion of female teachers, 75% of them were on pro-inclusion and believed that Deaf students were capable of studying and do better in their education. On the other hand, 88.9% (*N=8*) of male teachers were not in favour of Deaf students' academic

capabilities in secondary education. Even though these statistics have some sampling limitations, they have been phenomenologically useful to capture a representative orientation on teachers' attitudes towards their Deaf learners.

However, these findings have contradicted those by Boyle, Topping, & Jindal-Snape (2013) who conducted their study among teachers of students with disabilities in Scotland. In their study, they indicated that, out of 391 teachers, 77% (*N=301*) were positively motivated to teach students with disabilities, with the female teachers indicated to be more motivated. Literature has indicated that the positive attitude of teachers in Scotland was conditional since it was triggered by accessibility to adequate resources and support. Experience of Tanzania differs significantly from Scottish in case of availability of resources. This research has shown that inclusive schools in Tanzania face a scarce of resources to support the inclusion of Deaf learners in particular schools. Therefore, I can argue that the positive motivation of (75%) female teachers is more internal.

On the other hand, the current research findings are consistent with that by Boyle, Topping, & Jindal-Snape (2013) regarding female teachers' motivation. In both findings, female teachers are witnessed to be positively motivated towards inclusion and Deaf education as compared to male teachers. For example, the current research has shown that female teachers 67% (N=2) were positive towards Deaf students while the former study did not indicate actual statistics. Notwithstanding gender variability regarding the attitude towards students with disabilities, some literature has shown that gender difference is questionable (Avramidis & Norwich, 2002; Van Reusen et al., 2001), hence propagating the discussion further. Generally, attitudinal variability on Deaf students' learning abilities proposes rare chances for interaction following communication and linguistic diversities that are much discussed in the next section.

8.4.1.2 Linguistic diversity

The findings in this study strongly support the view that linguistic differences between Deaf and hearing persons formed the dividing line among members of a school. In this regard, the inclusive school was naïvely maintaining two communities: hearing community and Deaf community within one school community. Analysis of the interviews suggested that linguistic difference was the major factor for Deaf and hearing students' formation of such

communities. However, building the community of learners, as a social phenomenon within the framework of inclusive education, starts with a broader dialogue of how linguistic plurality and diversity are enhanced. On this background, Swanwick (2017, p. 23) insists that the recognition of plurality and diversity in inclusive Deaf education practices enhances the use of spoken and sign/signed languages.

For Swanwick, the creation of the community of learners in inclusive schools is a landmark of enabling the school system to enhance the use of both languages, which in turn, gives space to every member of the community to use his/her language for various social activities. This is supported by Meier, (2011, p. 808) who links linguistic plurality to the formation of friendship and cooperation among students, teachers and the entire school community. She emphasizes that the function of a community of learners is in line with the creation of learning environments that are mutually responsive to every learner. Aligning with the formation of the community of learners in inclusive schools, Given, et al. (2010, p. 37) indicate that the formation of CoL among members of an inclusive school is embedded in the collaborative tolerance and parity as the key factor for creating adaptive school practices towards minority groups.

In this regard, the thematic analysis identifies ‘language’ as the key component of the school culture formation and most specifically the community of learners. School culture, as the theoretical framework of this study demonstrates, connects the ontology of deafness to its effects on the way the school communities work and collaborate with Deaf persons. It is rather evident that there is a connection between how people understand Deafness and the way hearing persons react to Deaf persons.

Connected to the theoretical framework – which is explained in detail in Chapter Four of this study – Bruner sees the role of school culture on the entire inclusive education agenda. Hence, in building an inclusive culture, Bruner (1996, p. 1) emphasizes the need to consider education, not as an isolated entity, rather as an interplay with different elements of culture. It is rather important to insist on the influence of the school culture on the construction of reality over the self. So, the findings have identified that the community of learners is consonant to the school culture.

Conclusively, from historical backgrounds, Rosen (2016) takes us through the power of collaboration between Deaf and hearing people in the history of Deaf education in the world. It was from the collaboration between Laurent Clerc, a Deaf teacher of Deaf students from France, and Reverend Thomas Hopkins Gallaudet, a hearing preacher from the United States, in 1816 when one of the world's most important partnerships began (Rosen, 2016:38). It was from such a partnership that bilingual education programmes were initiated in the United States and a successful 'Deaf President Now' movement in 1988 at Gallaudet University. So, whether Deaf or hearing, collaborative tolerance is wealth working for creating an inclusive school bond. From this historical perspective, it is an undeniable truth that inclusive education cannot flourish in contexts where there is no cooperation and collaboration among members of the entire school community. Therefore, the findings of this study confirm that all three models of inclusion have been inefficient in creating a linguistic platform for enhancing collaboration and cooperation among students.

8.4.2 Responsive Learning Environments to Deaf Students

The analyses of interviews, observations and documentary reviews helped to identify the different themes related to responsive learning environments for Deaf students. Such themes as classroom interactional behaviours, collaboration among members of the inclusive community, school programmes, sign language interpretation, and related services were seen as the results of the school culture in practice.

The findings have also revealed that even though inclusive education challenges were known beforehand (NSIE, 2009, p. 19), its implementation and operation hardly considered meeting students' learning diversities. These findings are contrary to the Culturally Responsive Teaching theory that advocates for teachers to explore and use students' backgrounds as the first learning step and for which they will be committed to cultural competence, establish high expectations, and position themselves as facilitators and learners (Amy, 2018). This was a lacking phenomenon in classes and consequently, classroom behaviours including teaching methods, classroom instruction and classroom orientation remained monolithic and skewed in favour of the hearing majority leaving behind the Deaf minority. Similarly, school programmes were noted to skew mainly to the favour of hearing students than to Deaf students. So, from the analysis of the findings of this study, the following four sub-themes emerged.

8.4.2.1 The quality of classroom teaching

Teachers' awareness or knowledge of Deaf pedagogical skills, school programmes, curriculum and the whole school culture was found to be predominantly influenced by the hearing majority. In most cases, classroom observations and documentary reviews indicated that teachers consistently applied general teaching methods to teach Deaf students in classes. This is quite contrary to Knoors & Marschark (2014, p. 24) who argue that "teaching Deaf learners should not be the same as teaching hearing learners". In their analysis on educating Deaf students, Knoors & Marschark noted that there is a big relationship between hearing loss and language and communication development. To them, a Deaf child who acquires hearing loss before the full development of the language will have some limitations in communication development. A class with Deaf learners is quite a different class not only due to the presence of such students but rather due to its cultural and linguistic diversity. A diverse class in principle has diverse learning pathways and therefore, it is quite unfair to plan for similar teaching methods that would concurrently benefit Deaf and hearing and Deaf students equally.

The analysis of the teachers' profiles showed that at least 66% of teachers of Deaf students were either specialists or had some background knowledge of Deaf education; hence, they were capable of handling Deaf students' learning. However, on the contrary, all of them were observed applying general teaching methods to teach Deaf students in either inclusive classes or specified classes of Deaf students. This indicates that the majority of the teachers are hardly prepared to teach Deaf students regardless of their professional background. Hence, we consider this as a continuance of segregate and negative behaviours and practices among teachers (Eunice, Nyangia, & Orodho, 2015, p. 40). This quality of classroom opposes the natural setting of inclusive class proposed by the Culturally Responsive Teaching theory that it should be beneficial in relationship building, fostering cross-cultural understanding and inclusiveness, and influencing more diverse world views (Kafele, 2013). Teachers' choice of teaching strategies can be beneficial only if they meet the learning needs of Deaf students.

However, we noted that there were several issues surrounding teachers' negative behaviours and teaching tendencies, and the most striking one was *'the teachers' work recognition'*. Unlike teachers of regular students, teachers of Deaf students were hardly acknowledged for the performance of their students, instead, they were usually the subject of discussion in staff

meetings and seminars. This is exemplified by teacher Je who affirmed that "…we are not motivated for the extra-teaching and hard work we are doing to Deaf students". We, therefore, consider motivation as the gist of teaching tendencies, among others. The findings of this study are consonant with Utomo's, (2018, p. 334) research on teachers 'motivation. He underscores the fact that motivation is attained when one's needs are met by affirming that "when needs are met, the teacher's motivation level is affected positively". So, aligning research, (Utomo, 2018; Han & Yi, 2016; Babajide, 2013), the findings of this study identified the psychological needs of teachers as the nucleus of their motivation.

Consonant to the quality of teaching, the use of appropriate language for classroom communication poses a great challenge to Deaf education. The analysis of classroom observations showed that teachers were constantly battling to communicate with Deaf students during classroom lessons, hence, they regularly attempted to navigate between spoken and signed languages, whilst the majority of communication odds was being dominated by spoken language. This is exactly what Knoors and Marschark (2014, p. 25) caution us against when they assert that "language is the cornerstone of education, hence, schools in which effective communication is limited are likely to be restrictive learning environments for Deaf students".

However, proper communication modality in schools builds an inclusive classroom atmosphere that affects students directly. This is accentuated by Bruner (1996), who states that the classroom environment is the school's microsystem that makes the immediate environment to students' behavioural development. With this background, the quality of classroom teaching – as both the process and product – affects how one student develops feelings in front of the other. At this level, a child starts feeling being welcomed or rejected by the immediate environment. With appropriate communication modality (Knoors & Marschark, 2014), a classroom becomes a social learning context that is nuanced with the quality of interactions and pedagogical climates. This aspect (proper communication modality) is typically missing in all the three schools that were involved in this study.

8.4.2.2 The quality of the school curriculum

The National Strategy on Inclusive Education (NSIE) 2009 instituted that inclusive education should adjust programs to suit all students' needs. Within the policy framework, inclusive

schools are supposed to create structures and systems that enable the unification of students' diversities (URT, 2009, p. 14). Conversely, inclusive schools were found to be confined to general school programmes to which all students need to adhere. The analysis of documents unpacked the fact that programmes are congested with lessons beginning at 07:30 to 14:50. This is greatly supported by literature (Abosi, 2007; Adoyo, 2007; Chimedza, 2008; Brice & Straus, 2016) which affirmed that it has been a common tendency in Africa to accommodate students with disabilities into a regular curriculum. This tendency has remarkable challenges to Deaf students in particular because of their unique language modality that makes the classroom interaction more dynamic (Swanwick, 2017, p. 43).

However, African practices over inclusive education are central to what inclusive education advocates. This is suggested by Eunice, Nyangia, & Orodho, (2015, p. 39) when they assert:

> *Inclusion in education is 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.*

In this context, inclusive education requires several modifications in various areas of the school; examination modification, attitude change among teachers, classroom management, communication and information access, upholding other services like counselling, sign language services, audiological services, to mention but a few of them. More generally, inclusive education entails fitting into the students' learning needs.

Far different from the fact, the analyses of the findings exposed the existing friction between the theory of inclusive education and its practice. This was highlighted by the teachers' responses on the absence of guiding documents regarding how schools should implement inclusive education. This was the reality in the schools because all the three heads of schools affirmed not to have any guidelines for the implementation of inclusive education. Therefore, policy articulations have remained on the document and are henceforth vague on the implementing field. In this regard, the need to implement what schools do not know is similar to dilemmas teachers face in what Henry (2019) noted, "…the need to treat all learners equally versus the need to respond adequately to individual differences". Thus, the persistence of these dilemmas in Deaf education is an overt indication to pull behind the efforts to provide Deaf students with quality and adequate education in a similar platform with hearing students.

In accordance with school culture, the need to have an adaptive curriculum is important to link the school ecosystems - behaviours that are outside the class and that necessarily influence teachers' behaviours in the class. Ecologically, pedagogical decisions can be influenced by the curriculum desired (Lewis & Norwick, 2005, p. 8). In this regard, the curriculum that is catch to diversity informs teachers' needs to twist their teaching behaviours and consequently create a more solid school culture for all learners to feel their home.

8.4.2.3 The quality of communication facility

On sign language facility and information access, the National Policy of Education (NPE) (2014, p. 37) prescribes that Tanzania Sign Language (TSL) should be used as the language of communication at all levels of education. Similarly, NSIE 2009 insists the need to foster and develop TSL as the first language of Deaf persons (URT, 2009, p. 4). These articulations are meant to necessarily create a responsive learning avenue for Deaf students, and more specifically, create conducive inclusive school culture that acknowledges students' linguistic plurality and diversity.

As opposed to the policy framework, the analysis of the findings has shown that schools are extremely dominated by one communication modality – spoken language. This has consequently widened the streams of division between the two groups that are oriented to different communication and linguistic landscapes. In their analysis of inclusive education, Gudyanga, Wadesango, Hove & Gudyanga, (2014, p. 447) noted that the diverting linguistic perspectives are entirely affected both by cultural beliefs and institutional policies. In this regard, it is rather normal (but not taken for granted) for minority linguistic population to be dominated by the majority language groups – which was revealed in all the three school systems. In this case, the analysis of classroom observation has strongly affirmed that 25% of teachers of Deaf students indicated the ability to communicate in TSL. For this reason, most communication landscapes are oriented to spoken language(s), hence, contradicts the cultural landscape of Deaf students who use signed language widely for their communication, and as a result they distort the entire interaction among students.

In line with linguistic situation in schools, we further argue that the use of spoken language modality distorts the whole learning environment for Deaf students. As supported by literature, Greenberg et al., (2003) quoted in Knoors & Marschark, (2014, p. 14) defend the

argument that for schools to be appropriate for enhancing learning, they ought to be culturally oriented to learners to yield social and emotional outcomes. As it stands, social-emotional development builds a strong attachment between students, teachers and parents and on the other hand, it is an agent for socialization among students.

Interestingly, the status of TSL competence among teachers was pre-determined before plunging into inclusive education (Halvari & Savo, 2008 quoted in NSIE, 2009, p. 19), and ten years later, the same problem exists despite the fact that teachers had regularly attended training at different levels. This situation calls for a forum regarding the preparedness of teachers to handle inclusive classes. One of the studies conducted in Kenya revealed that most teachers agreed to the fact that their professional training was inadequate to take charge and impart knowledge and skills to pupils with special needs in education (Eunice, Nyangia, & Orodho, 2015, p. 47). Teacher training is fundamental to the adequate training of Deaf students in schools. However, the kind of training that does not evoke emotional change can impact the propagation of regular teaching methods to Deaf students. This observation is supported by Moreno & Mayer, (2007) quoted in Knoors and Marschark, (2014, p. 15) who pointed out that students understand only what they are being motivated to learn from teachers. Therefore, it is quite conclusive that the language of classroom communication is seen as a dividing factor among students in one class.

8.4.2.4 Sign language interpretation service

Consistent with the quality of classroom communication, is the power to use Sign language interpretation as a conduit for communication with Deaf students. The analysis of school observation indicated that Sign language interpretation is a serious problem in all the schools that were involved in the study. At least with classroom communication, the most regularly used communication modality was spoken language without sign language interpretation service. As a result, most Deaf students did not properly cope with classroom learning, hence remained isolated in class.

However, data analyses have shown that Sign language interpretation is one of the factors that prohibit interaction among students. With sign language interpretation, teachers become less motivated to learn Sign language for classroom communication and this makes them promote their teaching status quo. This is in line with Pattern, et al., (2013, p. 287) who found

that teachers' behaviours have a remarkable influence on the characteristics and behaviours of students. Hence, the continued teachers' averseness to use Sign language affects hearing students' enthusiasm to learn and use Sign language, peer acceptance; hence, distorting the entire interaction among students.

Building on Sign language interpretation, we found that 81% (*N=9*) of publications challenged the use of sign language interpretation in inclusive classes. For example, Al-Ibrahim, (2019, p. 326) highlights several challenges regarding the use of Sign language interpretation, some of which include:

i. The interpreter occasionally misunderstands the scientific terms introduced in the lesson and accordingly provides inaccurate translations;
ii. The interpreter may also frequently interrupt the teacher during class sessions to ask for further explanations of a term or sub-topic. These interruptions distract the teacher and his/her sequence of ideas which, in turn, wastes the time of the lesson.
iii. The interpreter cannot translate some terms in one word and subsequently consumes class time to clarify a term; and
iv. Sign language interpretation reduces chances for classroom discussion.

Similarly, other scholars (Knoors & Marschark, 2014; Swanwick, 2017; Mcilroy & Storbeck, 2010) have maintained the need to enable the learning environments that would assist Deaf students to develop their social-emotional characteristics, which consequently lead to developing and accepting their identity.

Primarily, any attempt to reduce the barrier to presence, participation, and learning mean creating an enabling environment in which students feel welcomed. These enabling language environments include teachers' ability to use Sign language in various domains of school life. In this regard, for Deaf students, the barrier to presence, participation, and learning involves blocking linguistic repertoires – which is a human reality. In other words, teachers' reluctance to use Sign language implicates preventing students from interacting and learning one's life experiences which are essential to teachers' roles of academic mentorship and guidance.

8.4.2.5 The quality of students' academic assessment

Related to the responsiveness of the school to the learning needs of students, is the need to assess Deaf students from their epistemology – the Deaf ways of knowing (Holcomb, 2010, p. 471) is key. In his research, Holcomb (2010) noted that the Deaf are usually silenced when they want to explain problems related to their education. This makes the baseline of students' assessment. The analysis of findings spotted examinations and assessments for Deaf students to be another aspect of the learning atmosphere of Deaf students. Hence, two areas of concern were identified:

i. Nature of the language used to compose assessment questions
ii. The type of questions used for assessment

Related to the above aspects, students' assessment ought to recognise Deaf students as visual learners (Knoors & Marschark, 2014; Brons & Namirembe, 2018). In researching challenges of Deaf students in Tanzania, Brons & Namirembe, (2018, p. 185) have highlighted the fact that Deaf students' language capability has been constantly overlooked. Hence, they establish the need to understand the effect of Deaf students' language delay on their cognitive development. In this regard, the quality of students' assessments ought to be valid to respective students. The above two aspects are discussed below.

i. Nature of the language used to assess Deaf students

The analysis of examination papers identified that Deaf students were subjected to regular examinations that were similarly used to evaluate hearing students. It is not that these assessments are bad, rather, they are not reliable for Deaf students whose main communication modality is visual-gestural. Hence, these findings contradict Knoors & Marschark (2014, p. 2) who emphasize the need to assess a phenomenon that addresses students' learning challenges. Their contention lies under the background that assessment is an integral part of learning, hence it should adequately meet the diverse learning needs of students. Therefore, building on Knoors & Marschark's point of view that teaching Deaf students should not be the same as teaching hearing students (Knoors & Marschark, 2014, p. 25), assessment, is an integral part of teaching, ought to be adapted respectively. Hence, the language to be used should enable Deaf students to comprehend the need of the question –

which is a policy demand (URT, 2009, p. 30), and a measure for reliable assessment (Holcomb, 2010).

ii. The type of questions used for assessment

An examination architecture requires that teachers understand the learning options of their students. With this background, the type of questions needs to correspond to the learning needs of Deaf students. The analysis of the findings showed that Deaf students were subjected both to objective and subjective questions full of lengthy explanations that would need a student to usually make a kind of semantic networking for meaning processing. Given that all students are assessed in the same examinations, regardless of their learning diversity, the difference in the type of questions for the Deaf and hearing students were unimportant. Referring to the linguistic background of Deaf students, Knoors & Marschark (2014, p. 25) highlight that the most serious challenges associated with hearing loss and learning relate to language. Hence, interpreting Deaf and hearing students equally in education is mostly an unconvinced reality. However, the fact that most Deaf students (83.3%) who make it to secondary education are post-lingual may not be itself a sufficient indication to discard Deaf students' language concerns – given the background that language is the cornerstone of Deaf education (Knoors and Marschark, 2014, p. 25). As such, it is anticipated that the type of questions should entirely reflect the language levels of Deaf students and the ability to retain the memory of the subject matter (Knoors & Marschark, 2014, p. 116).

8.4.3 The need to accommodate visual learning to Deaf students

The need to address visual learning is rooted in the fact that Deaf students are potentially visual learners who rely on visual information and communication access. As Marschark & Hauser (2012, p. 47) have established, to enable Deaf students to learn better in school, educators ought to develop a system that shows spoken language on the hands. It is, for this reason, I argue that for educators to help Deaf students to understand the content of the subject matter, one needs to learn several ways to present the information visually. Therefore, visual communication and pedagogy emerged as crucial sub-themes from the analysis of observations as discussed here below.

8.4.3.1 Visual communication

The emphasis on the use of visual communication is grounded in the fact that humans have separate channels to perceive and process information (Knoors & Marschark, 2014, p. 10). Given that Deaf persons are limited in their ability to perceive sounds, most of their communications are done visually. The analysis of findings of this study has shown inconsistency in upholding and using visual communication throughout the three schools. For example, in classes, most lessons were presented in the spoken modality. Additionally, there was hardly any teacher who used visual aids like pictures, mind maps, or any other pictorials to assist in their teaching. I put more weight on the use of visual aids because they serve an important purpose of helping Deaf students to get sufficient information; hence, visual learning.

Consistent with getting sufficient information, proper use of visual aids helps to reduce cognitive overload during the construction of the meaning (Knoors & Marschark, 2014, p. 11). Emphasizing visual learning, Humphries (2013, p. 10) ascertains that "Deaf signing teachers and caregivers actively engage, manage and direct the visual attention of Deaf children" (quoted in Crume & Singleton, 2008; Lieberman, 2008). Thus, through visual language, Deaf students can regulate themselves through participating in contexts with constant orchestration of visual language.

8.4.3.2 Visual critical pedagogy

The core of critical pedagogy (CP) is to humanize and empower learners (Aliakbari & Faraji, 2011, p. 17). These authors insist that the role of CP is to emancipate and educate all people regardless of their gender, class and race. In this regard, the teaching of Deaf learners should be streamlined to respond to their respective communication channels. We emphasize that with the use of appropriate visual teaching methods, teachers can play three roles: to reduce students' cognitive overload (Knoors & Marschark, 2014, p. 11), to enable the accurate path of information from teachers to students and vice versa and to retain what is learnt in the students' memory (Gathercole & Alloway, 2008).

Therefore, on one hand, Deaf pedagogical methods allow the visual representation of ideas, and on the other hand, they enable stimulation of Deaf students' information processing. Thus, Deaf students' abilities and their access to academically oriented experiences are

enhanced (Robert, 2004, p. 5). The analysis of classroom observation has indicated that the Tanzanian inclusive education system lacks this aspect and therefore, regular teaching methods are the most common methods teachers utilize to teach in an inclusive class with Deaf students. This is a clear indication of the 'tensions' teachers have on reaching out to the decision regarding the pedagogical choice. Typical to visual critical pedagogy is instructional accommodation which is analysed from the theoretical framework.

In terms of background to inclusive classroom accommodation, Scanlon & Baker (2012, p. 212) found that adaptive instructional accommodations reduce exclusionary tendencies to Deaf students. Thus, with the current education curriculum in Tanzania, the preferred teachers' practices in inclusive classes contravene what Paul Frere once introduced, 'Critical Pedagogy'. This is a pedagogical decision to enable Deaf students to gain a critical awareness of what goes on around them. Therefore, the avoidance of using Deaf didactic methods for teaching Deaf students inhibits dialogism between Deaf and hearing students (Swanwick, 2017), and consequently, it interferes with the democratization process in inclusive education.

8.4.4 Academic progress of Deaf students

Two themes have emerged from the analyses of Deaf students' academic progress; the first is the general trend of enrolment of Deaf students in the framework of five years, and the second is the trend of academic achievements in terms of examination results within the same timeframe. These two themes are discussed in the following sections. The two themes closely relate in the sense that they all reflect the process of education in respective schools. At first, when the Deaf child is admitted to school s/he enters into a community that is anticipated to accommodate most of his or her learning needs. In the process, upon provision of enabling learning environments, the learning milestone can simply be seen in both retention and achievement of examination results. Since both – enrolment and academic achievement – depend on each other, the discussion goes back and forth respectively.

8.4.4.1 Students' enrolment trend

The analysis of the findings in this study identified the regressive retention of Deaf students as classes advanced. It was evident that Deaf students registered to Form One were usually twice as many as compared to those who finally sat for the national form four assessment in the respective class. For example, Deaf students who were enrolled in secondary education

between 2015, 2016 and 2017 totalled 114 while those who managed to complete Form Four were 51, equivalent to 44.7%. This trend means that more than half (50%) of all students who got registered to form one, in respective years, could not complete their education cycle. Nevertheless, these findings are consistent with those of Migeha (2014, p. 33) who indicated that the dropout rate among Deaf students in secondary education between 2009 and 2012 was 47%. These two findings give us the clue that the graph of Deaf students' enrolment in secondary education has been regressively developing over the last decade.

With this enrolment trend, I may consider several issues surrounding the situation, one of which is the learning environment. For example, the analysis found that 67% of teachers believed that Deaf students were incapable academically. Building on this background, I consider teachers' belief on Deaf students' academic ability to mean a lot regarding classroom accommodation, pedagogical choices and formation of the school culture at large. This is following the fact that teachers' activities and the school culture are two inseparable aspects of the school (Meier, 2011; Tomari & Kudomi, 2008). This argument corresponds with what Grover's Jessica's Journey asserts, "students' dropout is related to the fact that the school does not meet their learning needs" Grover (2014, p. 20). So, teachers' negative belief contributes to the formation of the school culture which is potentially exclusive.

As it has been explained earlier, the gap between enrolment in lower and upper secondary school classes indicates different situations in which academic progress has been enhanced in an inclusive school. The analysis of the findings showed that most Deaf students were held back in their second year of secondary education; that is, 44% of Deaf students got into Form Three. This situation may have several interpretations. Firstly, an abrupt shift of the language of instruction – from Kiswahili to English – complicated the whole process of learning of the Deaf who were expected to be taught and assessed in English. The change of language had a significant effect on didactic learning among students. This was witnessed by most Deaf students (76.2%) who were unhappy with the use of the English language – the language of instruction and assessment. To this end, TSL that would be thought off for the learning Deaf students in secondary school is completely not heard.

Secondly, the change of assessment format has significant effects on question comprehension. In primary education, students are assessed by using Optical Marker Reader

(OMR[17]) questions that are both direct and simplified unlike in secondary education where students are exposed to objective and subjective questions that are technical. For Deaf students who are linguistically challenged (Knoors & Marschark 2014, p. 25), technical questions that use complex English language structure are even more complicated for meaning-making.

Thirdly, the entire school culture has frequently been reiterated to contribute to students' academic performance (Tomali & Kudomi, 2008; Grover, 2014; and Rabi & Pomerantiz, 2016). A proper inclusive culture both recognizes and responds to students' learning diversities. For this reason, students can develop their self-esteem and identity; hence, the feeling of belonging to the entire school community. This confirms that the above factors – being part of many factors –contributed significantly to the failure of 44% of Deaf students who did not do better in their mid-secondary education assessment; thus, they failed in examinations and dropped out of school as shown in the next section.

8.4.4.2 Students' examination results

The analyses of examination results showed that Deaf students had consistently attained the lowest grades in examination results compared to hearing peers across the five years of analysis. In the Form Two National Assessment (FTNA), 346 students were registered among whom 30.3% (*N=105*) got division 0 and 51.7% (*N=179*) got division 4. The rest 17.9% (*N=62*) students got between divisions 1 and 3. Hence, 241 students were able to proceed to the next class, while 74.2% of them were those with division 4.

It is from this background we argue that most Deaf students (74.2%) who were admitted to Form Three were academically poorly prepared as reflected in their Form Four National Assessment (FFNA) results. For example, out of 229 students who sat for FFNA in the three schools, 82.5% (*N=186*) got division 0 while 15.7% (*N=36*) got division 4. Hence, Deaf students totalling 98.2% had no chance to proceed with formal learning. Consistent with these results, Migeha (2014, p. 6) also identified that 88.1% (*N=207*) of Deaf students got division 0 in their FFNA between 2008 and 2011 just a few years after the inception of inclusive education. This means, over the past decade, inclusive secondary education has not managed to accommodate and enhance the learning of Deaf students through removing the

[17] Multiple questions examination that requires a student to shed the answer.

barriers to presence, participation and learning (URT, 2009) as the policy demands. Hence, the environments for secondary education have turned into restrictive learning spaces for Deaf students.

From the above statistics, there are a lot of questions that can be raised basing on the quality of teachers, quality of instruction, quality of policy in practice, quality of school management, quality of students and so many others. However, despite the several questions, this study considers the school culture as the most fundamental factor behind the situation. The analyses of findings showed that all the three schools had not enhanced 'interaction among members of the school' as the gist of learning (Knoors & Marschark, 2014, p. 11). In a similar context Wong, (2013) establishes that, interaction is enhanced through 'building bridges' between members of the school who have diverse linguistic and cultural backgrounds. Wong is of the view that bridges are essential for creating relationships among members of a school because it is through harmonious relationships where members of the school can interact and share their long-learning and life experiences, thereby, forming a community of learning.

Along with the findings of this study, literature has established that school culture makes the necessary framework of the school operation. Meier (2011) underscores that school culture plays a great role in creating the learning environment which suits students learning needs. Hence, subsets of culture like values, beliefs, practices, materials and problems, all together, are important indicators of both a process and product of culture subject to their ability to impact collaborative tolerance and parity within the school context. In this regard, this study asserts that teachers' teaching behaviours have been entirely affected by the culture of respective inclusive schools.

8.5 Conclusion

Throughout this chapter, I have spelt out the position of the Deaf learner amidst the entire hearing communities. I have seen how language diversity played a significant role in shaping relationships and collaborations among members of inclusive schools. In turn, the discussion has shown that there was a communication gap between hearing and Deaf students on one hand, and Deaf students and teachers on the other. It was revealed that despite the determination of the government of Tanzania to implement inclusive education, schools'

systems had not welcomed the approach. Hence, each school adopted an approach that suited its setting. The disadvantage of this move was seen in the lack of uniformity on how inclusive education is implemented.

Consequently, as a linguistic minority group, Deaf people were typically overshadowed by the majority speaking/hearing community of students and staff. Research findings further found that Deaf students had been struggling to find their voices within the hearing school community without success, and the impact was witnessed in their poor learning performance. On the other hand, a lack of inclusive culture prompted the development of a negative attitude between two parties – the hearing and the Deaf community. This in return, influenced the lack of collaborative tolerance among students; hence, the unsatisfactory academic progress of the Deaf students.

Lastly, the analysis of findings revealed that school systems were engulfed with unresponsive school policies, programmes and practices on Deaf students. That is, the entire culture of inclusive schools was covertly the hearing culture. In turn, inclusive schools were typical restrictive learning spaces for the Deaf. Therefore, it is clear that most Deaf students faced difficulties in coping with an inclusive school setting that did not recognize their learning potentials. Being as it is, School Y stands out to denote the most beneficial inclusive learning space for Deaf learners. Despite its challenges, the language policy of the school favours the creation of communities of learners which are crucial for the creation of trust and friendships among Deaf and hearing students.

Chapter Nine

Conclusion and Recommendations

9.1 Introduction

This chapter provides readers with a summary of the findings and recommendations based on the analyses of the key findings and the discussion of this study. It gives more insights into the researcher in the realm of inclusive Deaf education. So, most of the recommendations are made in line with what was discussed in previous chapters and are all aligned with the school culture and Culturally Responsive Teaching as the guiding theories of this research. The chapter begins with a summary of findings then followed by the establishment of the thesis of this study. Conclusion and recommendations are presented later in the section. Recommendations are made in line with the National Policy and nature of learning required for Deaf students in the country.

9.2 Summary of the findings

This study aimed to explore the first phase of implementing inclusive education in Tanzania. However, it focused on the following specific areas in respect of the inclusion of Deaf students:

i. Cooperation and collaboration among students in inclusive schools;
ii. Responsiveness of the schools' learning space;
iii. Learning accommodation of the visual learning; and
iv. Learning outcome.

Depending on four research instruments that were used to collect the raw data from the field (see Chapter Five), the analyses of the findings indicated that:

i. There was a lack of uniformity regarding how schools respond to implementation of inclusive education. In this regard, each school operated in a way that suited the wishes of teachers and school systems.
ii. There was a big line of division between hearing and Deaf students. In this, it was evident that linguistic diversities and cultural backgrounds had contributed to the growing dispersion among students; hence, hearing and Deaf students hardly cooperated or teamed up in their academic works.

iii. Given that 75% of teachers of the Deaf were pessimistic with their students' academic ability, the most used pedagogical methods were the regular ones whilst the dominant communication modality was spoken. As a result, Deaf students who used sign language, in most of their communication, were negated in various contexts of the school.

iv. Regarding teachers' professionalism, it was found that 75% of teachers of the Deaf had some training in Deaf education. However, most (75%) of the junior teachers (who were less than 50 years of age) seemed to be less motivated to teach Deaf students compared to senior teachers (who were aged above 50 years) who were most passionate about Deaf students' academic endeavour.

v. Gender-based motivation also featured in the findings. With this, female teachers seemed to be more motivated to teach Deaf students compared to their male colleagues.

vi. The available education policy, and curriculum were channelled into mainstreaming. Hence, the Deaf education learning space was limited. Consequently, all teaching, assessments, and school programmes were dominantly mainstreaming. For this reason, Deaf students found themselves to be more foreigners than being members of their classes and schools.

vii. At least $\frac{1}{3}$ of schools with Deaf students had a resource room that was not appropriately utilized. Hence it was turned into a private study room for the Deaf.

viii. Most Deaf students (83.3% (N=50)) who advanced to Form Three and Four were post-lingual, compared to 16.7% (N=10) who were pre-lingual. Similarly, the difference between Deaf students with and without residual hearing in the same classes was 6.6%, of which those with residual hearing was 53.3% (*N=32*).

ix. Resulting from the above findings, 30.3% (*N=105*) Deaf students failed to advance to Form Three following their poor academic grades in the final national assessment between 2015 – 2019, whilst 82.5% (*N=186*) of those who reached Form Four failed their final examinations by scoring division 0.

9.3 The thesis of this study

This section is the continuation of the previous chapters. It argues a theory that works as a synergy of all the interrelated aspects of inclusive schools. From the research results and

synthesis of themes, it is convincing that the overall setup and the first phase of implementing inclusive education have not taken care of important aspects related to the identification of and compliance to students' learning needs. As a policy requirement, the implementation of inclusive education in Tanzania involved a transition from a deficit model (URT, 2009, p. 18).

However, such a transition was not strategized thoroughly well; thus, allowing a deficit model to continue operating covertly in an inclusive education model. This is revealed by the findings that have shown that some inclusive schools still consider Deaf students as lacking learning abilities to study together with hearing students in class. Hence, separating them from hearing ones would help teachers to design a lesson that suits such Deaf learners. It was further evidence that some teachers still regard Deaf students as incapable of studying science and Mathematics. In this way, this research has noted three types of inclusive education in Tanzania: full inclusive education; partial inclusive education; and full specialization inclusive education.

In partial inclusive education, two types of school orientation, mainstream and inclusive, are conjoined. This type of inclusive education was found to be applied in School X. In this orientation, Deaf students are taught separately in special classes in five subjects whereas, for the rest of the subjects, Deaf students join their fellow hearing students in inclusive classes. This approach was adopted as an attempt to avoid a paradigm war within the realm of education policies. Despite each approach having its merits and demerits, conjoining the two approaches may result in another challenge regarding the quality of teaching between hearing and Deaf students.

On the other hand, some schools are likely to adopt full inclusion as a policy phenomenon that is not reflected in the actual school culture. For instance, in school Y, Deaf students were integrated with hearing students in all learning situations. However, the use of sign language was limited and hardly applicable in classrooms. With this background, the school lacked the intended social integration. Despite that this paradigm is overtly seen to comply with the inclusive education policy, it expands the exclusionary social gap between the hearing community and Deaf community within the same school frameworks.

On a different aspect, this study uncovered confusion regarding the conception of 'Special School'. Despite that much of this confusion is described in the chapter on analysis and further, on discussion, this section makes only a concluding remark. After data analysis, it was noted that the school has nothing that makes it special, rather, it is a full specialization inclusive school. For example, in School Z, there were profoundly Deaf students and hard-of-hearing students who were either prelingual or post-lingual. All these 'Deaf' students had different linguistic backgrounds and, therefore, were bonded into different learning orientations. This study found that none of the curriculum, school programmes, examinations, or culture was 'special' for Deaf students. So, despite the school being 'Deaf' specific, all the aforementioned aspects were oriented towards regular education.

In all the three situations above, it was found that there was an existence of contrasting motives regarding the implementation of inclusive education as the policy framework and this had socio-academic effects on Deaf students. Given that language and communication were seen as the sources of dispersion for the implementation of inclusive Deaf education, this study proposes the adoption of the bilingual-bicultural model to the successful enhancement of inclusive education. The last section analyses a framework of the bilingual-bicultural inclusive model.

9.4 General conclusion

This study affirms that since its inception, inclusive education had been no clear framework of implementation; hence, it has not been effectively implemented in Tanzania. What has been evident is that there has been a serious contention on the meaning and practice of inclusive education among education practitioners. Therefore, proper ways for framing school culture were not adopted; consequently, each school took its interpretation of inclusion and appealed to the gateway of the implementation of inclusive education. This situation, however, removes uniformity and raises questions on the quality of assessments and educational practices in the schools. Similarly, this study noted the widening gap and inconsistence between policy statements and practice. In this sense, much of what is proposed in the policy documents are not implemented in schools. For example, though sign language is pronounced to be taught as a subject (The national Strategy for Inclusive Education – 2009), its implementation is not evident.

Inclusive education needs training and capacity-building workshops for different educational stakeholders – as identified in the National Strategy for Inclusive Education – 2009. The aim of these workshops and training is not only to have a common understanding of the policies but also for collective efficacy. However, since its inception, teachers have not been exposed to capacity buildings and trainings which would have equipped them with an adequate understanding of inclusion and how to implement it in various school settings. This has generally endangered the quality of education and fairness in the assessments of Deaf students in particular.

Similarly, it was noted that even though 75% of teachers of the Deaf had been trained in Deaf education, 75% of the same teachers were not motivated to teach their respective students. So, teachers' motivation is the root of the provision of education to Deaf students. This was motivated by the fact that most Deaf students could not cope well in inclusive classes, and as a result, they end up scoring the lowest grades in their assessments at different levels. So, together with the fact that some schools may have a serious deficiency with specialist teachers of Deaf students, the available individualized school culture (Grosemans, 2015:153) prompted teachers to be isolated and to do their teaching according to how they knew it. However, despite that individualized school culture makes teachers autonomous in their teaching, it has increased depressions among teachers, thus making 75% of the junior staff to be negatively motivated to teach Deaf students.

Furthermore, this study has noted the inconsistency between the modalities and approaches adopted by teachers to teach Deaf students. Three different modalities were noted: Written English and/or Kiswahili, Speaking/mouthing in Kiswahili and Signed Kiswahili. And this is a typical indication of the complications teachers and Deaf students face in communication and interaction in classes.

Teachers were seen to navigate between the modalities in the same context of teaching. This was a typical indicator of teachers' lack of proficiency in sign language and a challenge they meet whenever it comes to communicating with Deaf students in their classes. In return, Deaf students' sign language development and literacy acquisition faced a serious block because teachers hardly assisted them in such developments and acquisitions.

It is also true that, examinations are assessment tools that are used to measure students' understanding of a subject matter. Hence, the fair examination should yield fair results. The controversial question of this study is 'from whose perspectives should examinations be set?' This study has noted that most examinations were set from teachers' perspectives and understanding of the subject matter but not from the students' learning needs. This might be a fallacy in one angle, yet to Deaf students, it is certainly true that they were usually subjected to examinations that were not theirs – given the current examination formats.

Lastly, the role of school environments was not overlooked. As stated by Marschark & Knoors (2014, p. 5), learning is shaped by aspects of an institution like curriculum, values, controls and practices. Practically, teachers' behaviours that arose from social dominance over Deaf students were transmitted to schools and this reciprocally influenced the classroom teaching practices. It was rather evident that school culture formation was influenced by the construction of reality over Deaf students, and consequently, Deaf students were unexpectedly noted to struggle to fit in the exclusive school community. In this regard, the concern of inclusive education as articulated by the national policy document(s) that "Inclusive education is an approach which transforms education system, including its' structure, policies, practices and human resources, to accommodate all learners in the mainstream education by addressing and responding to learners' diverse needs" (URT, 2018:12) was quite unlikely to be realised.

Generally, inclusive education in Tanzania is itself a controversial phenomenon in the education system. These controversies regarding the perception and practice involving inclusion have resulted in three diverse ways of practising inclusive education in secondary schools across the country. Consequently, as stated earlier, what has been implemented is not inclusive education because it has failed to integrate students' learning diversities. Instead, what is practised is the placement of students with different socio-cultural orientations in the same school. And on the opposite, what has been articulated in several policy documents as 'Inclusive Education' has not yet been implemented. This is due to the reason that school cultures have remained regular since then. It is important to emphasize that inclusive education entails inclusive culture. Following the data analyses and discussion thereafter, I have confirmed that the transition from a deficit model to an inclusive education model was not done. As a result, it has adversely impacted the implementation of inclusive education.

9.5 Recommendations

The recommendations of this study are based on the analyses and discussion of the data presented in the previous chapters. In order to arrive at recommendations regarding the milestones reached in implementing inclusive education, the intended objectives of the Tanzania government's National Strategy for Inclusive Education (NSIE) of 2009 are lighted. In a nutshell, this research focused on four areas, namely:

i. the learning engagement and cooperation among Deaf and hearing students;
ii. the responsiveness of the learning environment;
iii. the incorporation of visual needs of learners in class; and
iv. the academic progress of Deaf students.

And the NSIE focused on improving the following areas:

i. Educational support services;
ii. Teaching and learning support;
iii. Professional capabilities; and
iv. Education policies and programmes.

So, both objectives of this study and the objectives of NSIE are merged and recommended accordingly in the following sections.

9.5.1 The availability of education support to Deaf learners

It was identified that inclusive schools had inadequate facilities that would not satisfactorily assist Deaf students to learn comfortably. For example, the analyses of observations indicated that at least not more than $\frac{1}{3}$ (one-third) of all-inclusive schools had resource rooms while none of all the schools had audiological assessment rooms. However, the available resource rooms were not equipped with assistive visual materials as recommended by Muflih, (2018:13) for students with learning difficulties. In his analysis of how teachers make use of visual materials in the resource room, Muflih (2018, p. 23) found that hardly teachers optimized the use of visual aids for the learning of learners with learning difficulties. Hence, Muflin (2018) recommended that for resource rooms to be optimally used, they should be installed with adequate visual tools for students' easy comprehension of the concept. In terms

of the background to Deaf students' linguistic and cultural backgrounds (Knoors & Marschark, 2014, p. 15), there is a need to widen a spectrum of support in education provision, which includes sign language facility, resource rooms, audiology rooms for auditory assessment, speech therapy for speech training and counselling psychologists. All these are not often available in schools and a few of them that are available are not well installed and utilized. Therefore, I recommend that for the effective implementation of inclusive Deaf education in Tanzania, schools need to be ensured with the provision and utilization of the above-mentioned services.

9.5.2 Teaching and learning response to the diverse needs of learners

Within an inclusive education framework, the school curriculum needs to be inclusive and adequately responsive to the different learning styles of students. It was evident that the existing structures [of three different] in inclusive schools did not adequately respond to the learning needs of Deaf students in particular. For example, the available curriculum, communication modality, and teaching materials followed a regular education curriculum and did not cater to the needs of Deaf students. It is, therefore, recommended that there is a need to revisit and adapt the curriculum to a more inclusive one given its role in the education provision. Along with the adaptation of an inclusive curriculum, other support systems need to be established and strengthened to respond to the diverse learning needs of learners.

Along with the curriculum adaptation, the existing examination system and formats are based on the regular curriculum of education and do not comply with the desired principles of inclusive education (URT., 2009, p. 30). Findings indicate that Deaf students were subjected to similar examination question-format with hearing students. In sampled examination papers, it was found that most long and indirect questions were poorly answered or answered. This finding is supported by different literature (Brons & Namirembe, 2018; Lamproupoulou & Groumpos, 2015; Marschark & Lee, 2014; Marschark & Hauser, 2012; Cawthon, 2001) which have shown that Deaf students can hardly read a question of three lines with connected meaning blocks in English and still expect one to remember the first word. Nevertheless, in recent years, research has attracted attention especially in proving the relationship between sign language fluency and literacy in spoken language(s). For example, in their study "Teaching Deaf Learners: Psychological and Development Foundation," Marschark & Knoors, (2014) found that 95% of Deaf students were born and raised by hearing parents who

use spoken language in most of their communication at home. This in turn affects the fluency of their Deaf children in sign language use and their literacy ability. It is from this background this study affirms that Deaf students face difficulties in comprehending long English sentences. Therefore, this study recommends that:

a. Examination questions should be precise and concise. Questions that are long and that need to connect semantic blocks would affect students' understanding of the question.
b. Some questions, especially in science and mathematics, can be presented in diagrams Which will help Deaf students in making sense of the questions.

Using precise questions will reduce the unnecessary longevity of the question that would distract an understanding of the question. Similarly, an understanding that a Deaf is a visual learner underscores the use of diagrams in examinations. These diagrams and visual images are useful for stimulating memory and information processing in Deaf students.

9.5.3 Strengthening professional capabilities for inclusive education

The policy documents admit the importance of professional capabilities among teachers and members of the entire inclusive setting. In this respect, the concern of the policy was to ensure that there were adequate staff members who were trained in inclusive Deaf education. This is in line with providing teachers with in-school training for them to be ready to adapt to the inclusive education agenda. It was rather found that, since its inception in 2010, there had been hardly any training in inclusive Deaf education for unspecialized teachers. Thus, schools went into implementing the inclusion agenda they did not know about. As a result, most teachers of Deaf students (75%) were negatively motivated to teach Deaf students. It is, therefore, recommended that:

a. Several capacity-building training initiatives over the meaning and practice of inclusive education for Deaf learners be provided to teachers, heads of schools and education quality assurance officers. This will increase awareness about Deaf culture and psychology, and in long run, this will both increase motivation and reduce the negative attitude among teachers of Deaf students.

b. Training colleges and universities need to revisit their programmes and be assured of the quality of teachers who are well informed on sign language linguistics, Deaf culture and Deaf history.

9.5.4 Education policies and programmes

Findings of this study have shown that no part of the policy and school programmes is well-informed of the values, traditions and culture of Deaf students. For example, it was noted that the most used communication modality in inclusive schools was the spoken one while the classroom teaching methods were mostly regular. As a result, Deaf students were found to experience isolation and exclusion in various school programmes including classroom teaching, communication and information access, examinations administration, general school timetable and many others. This aspect is broad, and it encompasses the school culture and orientation. Thus, there is a need to change the existing school culture and adopt to one that cherishes cultural and linguistic plurality and diversity. Therefore, because of the actual learning situation of Deaf students in an inclusive situation in Tanzania – as evidenced by this research – I, therefore, recommend for adaptation of the bilingual-bicultural model which is widely discussed in the next section.

9.5.5 Bimodal-Bicultural Model[18]

The Bilingual-Bicultural Model (henceforth Bi-BiM) is proposed in this study for the effective implementation of inclusive culture in the Tanzanian secondary education system. Its adoption is geared to develop the recognition of cultural plurality and diversity of the entire school community. Bi-BiM both forms an interface between Deaf and hearing students and unveiling the inter-connectivity between visual-gestural and auditory-vocal modalities respectively. Bimodal (signed and spoken) – bicultural (Deaf and hearing) model in education allows two languages, the spoken and signed, to be used simultaneously within the school context. With the Bi-BiM, Deaf students have cultural space from which they can transit from and between both the hearing community and the Deaf community (McIlroy & Storbeck, 2011, p. 497).

[18] In some instances, there has hardly been a difference between the use of bimodal and bilingual. Thus, in this study, the two terms may be used simultaneously to mean the same.

The Bi-BiM in Deaf education begins by accepting Tanzania Sign language (TSL) within a language family repertoire and therefore be attached to Cummins' linguistic interdependence model which argues for a common proficiency underlying all languages. This interdependence model considers the proficiency of the first language with its effect on second language acquisition. In this regard, bilingual-bicultural education allows the cross-linguistic transfer of the structural influence of one language on the other at all levels of phonology, morphology or syntax (Ellen & Marcel, 2014, p. 76). Recent research in bilingual education (e.g. Melby-Lervang & Lervang, 2011; Marschark, Gladys, & Knoors, 2014) has established that there is a correlation between the first language (L1) and the second language (L2) proficiency in different domains of language. It is proven that proficiency in sign language has adequate input to spoken/written language(s) (e.g. Hermans, Knoors, Ormel & Verhoeven, 2008; Hermans, Ormel, Knoors, 2010 in Marschark, Gladys, & Knoors, 2014, p. 76).

The Bi-BiM has been explored in a full range in Deaf education and literature (Swanwick, 2017; Dammeyer & Marschark, 2016; Marschark & Knoors, 2014; Marschark, Gladys, & Knoors, 2014; McIlroy & Storbeck, 2011) and it has proven the influence of sign language competence over the reading/writing skills, just like good spoken language skills also is associated with greater literacy skills (Dammeyer & Marschark, 2016, p. 395). Thus, as Swanwick (2017, p. 28) explains, "the major enquiry in Bi-BiM is centred on the processing of sign language and written language".

Historically, Bi-BiM has been reported to have been both a dominant and effective model in Deaf education in Scandinavian countries (Denmark, Sweden and Norway) from the 1980s to 2000s when cochlear implants came in after an invention of science and technology (Dammeyer & Marschark, 2016, p. 396). Similarly, the model has been reported to have been effective in Deaf education in Australia since 1991 both in changing teachers' attitudes and promoting Deaf students' learning space (Komesaroff, 2001). However, unlike the technologically advanced countries like Europe, America, Australia, and possibly South Africa, which are now shifting to cochlear implants (CI), Tanzania is still lacking significant proof of the availability of technological advancement to enhance CI to Deaf children. Thus, this study finds the model to be useful for Deaf students in the inclusive setting.

With Bi-BiM, sign language is taught as an independent subject because it is the first language of the Deaf equally to spoken languages which are also taught as independent subjects. On the other hand, teaching sign language as a subject is also an attempt to expose hearing students to the Deaf culture and Deaf history. Generally, Bi-BiM has been valued for promoting linguistic competence through recognizing sign language as the first language of Deaf kids. In respect of this, the model is considered to have identified its four objectives as highlighted by Marschark & Knoors, (2014, p. 95):

i) to enable Deaf students to become linguistically competent;
ii) to provide access to a wide curriculum;
iii) to facilitate good literacy skills; and,
iv) to provide Deaf pupils with a positive sense of their own identity.

These objectives of the Bi-BiM are intended to provide students with full access to the school curriculum. Closely related to 50-50 dual language model suggested by Gomez and Gomez (2000), which advocates that bilingualism requires languages to have equal roles in various domains of use, Bi-BiM provides students with equal access to sign and spoken languages without under-estimating the efficacy of each language to comprehension development. The next section presents the diagrammatic representation of the proposed bilingual-bicultural model.

9.5.6 Overview of the Bilingual-Bicultural Model

This model primarily emphasizes the recognition of Deaf persons as a linguistic-cultural group (Bagga-Gupta, 2004 quoted in Dammeyer & Marschark, 2016, p. 395) and admits the importance of training written English/Kiswahili to Deaf students. On the other hand, by recognising the Deaf community as the linguistic-cultural group, it intends to orient hearing persons to the Deaf culture and Deaf history.

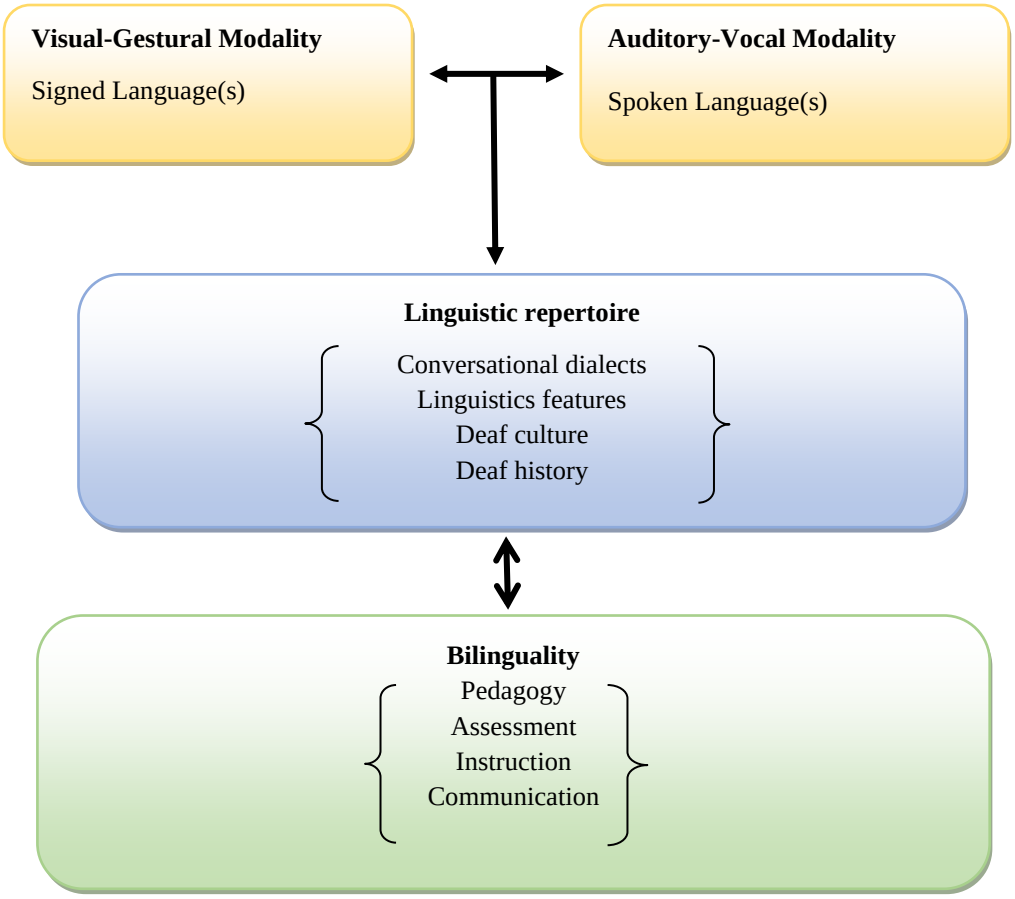


Figure 52: Proposed Bilingual-Bicultural Model

It is reiterated that the model considers the co-existence of TSL/signed language and spoken languages – Kiswahili and English. Thus, both language modes are co-currently fused into schools' linguistic repertoires and thus forming a bilingual school community. In this regard, teachers are obliged to use signed and spoken languages as languages of instructions in class(es), and this enables Deaf students to learn spoken/written language(s) easily. Similarly, instruction in sign language will enable hearing students to learn to sign(ed) language and be able to apply appropriate modality. In this aspect, therefore, students get exposed to the use of TSL and signed language dialects in various school contexts, and through which they can form groupings of friendships. Aside from visual communication, Deaf persons see themselves as a linguistic minority, a descendant community of language users who have transmitted their language over many generations despite the denial of their legitimacy by the general society and the sciences (Humphries, 2013, p. 9). He further adds that the bilingual model brings Deaf narratives that suggest alternative learning pathways and strategies such as an orientation to visual language and visual learning. Baring this in mind, therefore, Visual-Gestural Modality orients the hearing community to the concerns of Deaf persons about

social justice and linguistic rights over the use of (T)SL and consequently inculcate visual communication modality in the hearing students and through which they can easily communicate with their Deaf peers.

9.5.6.2 Auditory-Vocal Modality

In Auditory-Vocal Modality, Deaf students get exposed to spoken/written languages. With spoken language(s), only Deaf students with residual hearing can benefit. However, the modality is beneficial in developing literacy skills to severe and profoundly Deaf students. Notwithstanding the latter, Auditory-Vocal Modality gives an avenue to Deaf students to exercise a range of communication means within their range of severity of hearing loss. This includes using cued speech, lip-reading and written forms. However, the available research (e.g. Marschark, Gladys, & Knoors, 2014; Swanwick, 2017) has continually insisted that signed and spoken languages have the role of transferring linguistic aspects to one another and the development of code blending. Thus, Bi-BiM attracts the influence of spoken/written language on the development of sign language fluency. As identified by Holzinger & Fellinger (2014, p. 103), Deaf students have demonstrated deficiencies in morphology, syntax, and pragmatics of written languages, and this is associated with limited exposure to spoken/signed languages. Consequently, it has been evidenced to have a proportional effect on working memory (Gathercole, 2006; Pison et. al., 2008 cited in Holzinger & Fellinger, 2014, p. 103).

9.5.6.3 Linguistic Repertoire

On the other hand, linguistic features of each language mode (spoken and sign(ed)) will be taught to students. In linguistic features, students will get exposed to the syntax, morphology, phonology, semantics and stylistics of TSL. Thus, TSL will be taught as a subject to all students in inclusive schools just like spoken language. The implication of this aspect is to enable both Deaf and hearing students to be enriched with a linguistic repertoire in which they can learn and re-learn about Deaf culture and Deaf history. As a result, this will reduce negative attitudes and stereotypes that are transferable through cultural practices and beliefs in respect of deafness. Similarly, different levels of linguistics of spoken languages and TSL will be taught to students. This aims to expose students to the knowledge of sign language linguistics and be able to use it in various school situations. Linguistic repertoires give

students the ability to navigate between languages and thus be able to apply simultaneous communication and code blending (Swanwick, 2017, p. 87). As documented in sociolinguistics research (e.g. Lucas, 2002), the use of sign language is similarly affected by some social aspects such as age, gender, contexts to mention a few of them. So, sign linguistic aspects like mouthing, fingerspelling, and facial expressions need to be exposed to students in order to enrich them within the realm of bilinguality. Generally, bilinguality needs the introduction of a bilingual curriculum in which both signed and spoken languages are taught as subjects and are subjected to assessments on an equal basis. On the other hand, the introduction of a bilingual curriculum will improve teacher's levels of sign language skills, and eventually, enhance communication adequacy between them and Deaf students.

9.5.6.4 Bilinguality

Bilinguality is the ability of a person to integrate two language systems within a context of language use. In connection to this study, bilinguality is concerned with the ability of the student to deploy signed and spoken language systems within a linguistic plurality context. Thus, through exposure to the linguistic repertoire, both the Deaf and hearing students can enhance translanguaging between signed and spoken languages. To this end, bilinguality offers a practical response to linguistic diversity and plurality in Deaf education through creating an inclusive culture that responds to Deaf students' learning concerns. With bilinguality, students can form meaning from their linguistic experiences – both signed and spoken and can thus form a community of practice in which the value of diversity and plurality is considered. In supporting this, Swanwick (2017, p. 83) emphasizes that bilinguality gives a space to bilingual students to migrate between codes and be able to learn such codes and not only use them in social contexts, but also it allows students to be flexible to use their language resources in order to maximize their communication and understanding. Similarly, through bilinguality, teachers can usually code-mix and code-switch in the context of teaching, thus enhancing what Swanwick calls 'Bilingual Pedagogy'. Emphasizing bilingual pedagogy, Humphries, (2013) notes:

> "A bilingual pedagogy for Deaf students is evocative of central perspectives that there is no deficit within the body, instead, it is only different. Such pedagogy brings to the forefront the role of sign language in teaching and learning, whereas historically, sign language has not been considered an academic language. The role of

> sign language in supporting the learning of spoken is also a central perspective that is highlighted in a bilingual education narrative" (p. 9)

From his assertion, Humphries implies that bilingual pedagogy discards the deficit model as an approach to classroom instruction. This study has noted the prevalence of frustrations experienced in the choice of the pedagogical approaches for Deaf learners. The diversity in teachers' pedagogical choices has resulted in some teachers employing the deficit model which looks at students' weaknesses rather than strengths, whereas other teachers applied 'general' methodologies and bound themselves to 'one-size-fits-all' approaches.

On assessments, bilinguality enables examination format to reflect the linguistic concerns of Deaf students. Thus, either shortened or signed questions can be set in order to enable Deaf students to understand and, eventually, adequately respond to such questions. It was evident that the current examinations set up, with long questions and complex English structure, featured among the factors for the 'poor' academic achievement of Deaf students in Tanzania. Researching on the inter-relatedness of two language modes, Ellen & Marcel (2014, p. 82) have shown how one language mode influences activation of the other mode during the development of comprehension. Below is a diagrammatic representation of such an activation as cited from the same:

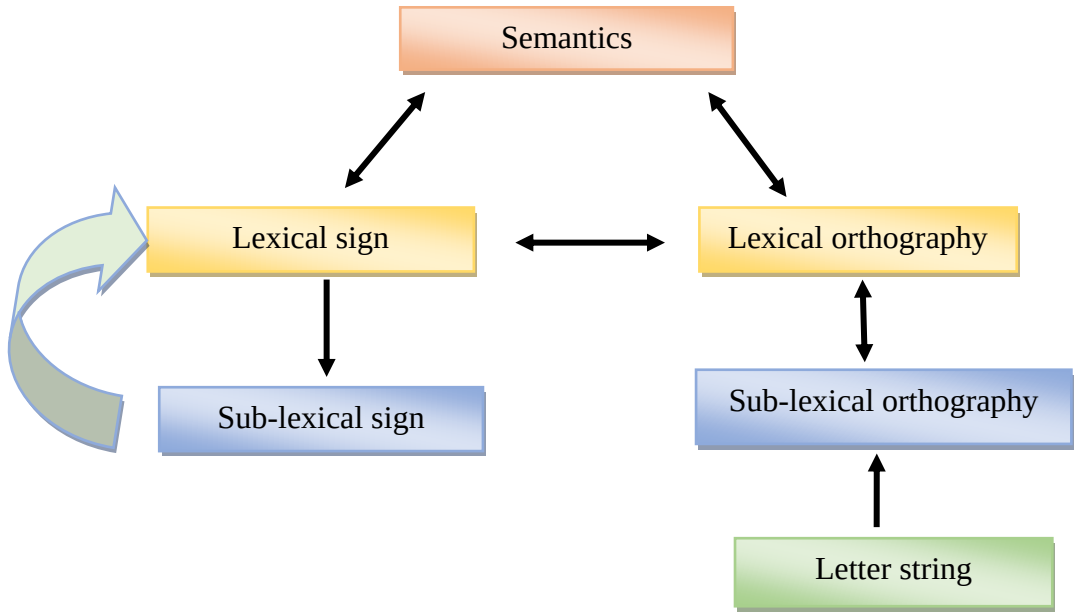


Figure 53: Sign activation during visual word recognition by bilingual children: Adapted from Ellen & Marcel (2014, p. 82)

With the language activation model above, Ellen & Marcel (2014, p. 82) have proposed the inter-connectivity of two language modes and shown how one mode influences the activation of the brain in understanding the other mode. In their research that involved children of 9 years who were exposed to Dutch and NGT (Sign Language of the Netherlands), Ellen & Marcel (2014) have identified the relatedness of spoken and sign language in brain activation and meaning formation. They noted:

> "There is a very positive influential relationship between written word recognition and co-activation of sign phonology in Deaf children. …once lexical orthography is activated (i.e. recognizing the letter string d-o-g as the orthographical representation of the word dog), the sign translation of the activated of the written word is also activated (i.e., the sign DOG) through the direct link of their shared semantic features. Similarly, once the lexical sign is activated, activation feeds down to the composing sub-lexical sign elements (i.e., handshapes, movement, location, direction and orientation features)" (p. 82).

With language activation, other sign lexical features that may share a semantic field may be co-activated as well. However, despite the challenges of this model, of importance is the translanguaging aspect of bimodality that has been influenced by bimodal bilingualism in Deaf education.

POSTSCRIPT

My engagement with Deaf persons paved a path for me to understand who the Deaf persons are and how their communication and learning styles are. After studying the actual inclusion of Deaf students in secondary education and their respective learning outcomes, I was encouraged to be part of the change I aspire to. This gave me the energy to advocate for the improvement of their learning in inclusive secondary schools. It was my inner inspiration that my career development in Deaf education should eventually yield some positive outcomes in Tanzania. It is glad to note that the Ph.D. and findings have contributed to the efforts of the Ministry of Education, Science and Technology of Tanzania to develop the guidelines for the implementation of inclusive education in the country. In the guidelines, Tanzanian Sign Language is recommended to be taught as a subject to all students in inclusive schools along with adopting the Bilingual-Bicultural Model in such schools. Along with the guidelines, the Ministry developed the digital Tanzanian Sign Language dictionary which is uploaded on tablets and distributed to all schools with Deaf students. In all these processes, I was involved as both an expert and consultant in Deaf education to advise on the best practices in the field. Teachers of Deaf students have been fully engaged in trainings on the contents of the guidelines and the dictionary. Preparations of the TSL textbooks and syllabus are under way. The implementation of these guidelines is scheduled for the 2021 academic year.

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Appendix 1: *Ethics Clearance certificate*

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Mkama

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H19/03/21**
PROJECT TITLE	An in-depth exploration of the first phase of inclusive deaf education in Tanzania
INVESTIGATOR(S)	Mr I Mkama
SCHOOL/DEPARTMENT	School of Education/
DATE CONSIDERED	15 March 2019
DECISION OF THE COMMITTEE	Approved Permission letters required before data collection can commence
EXPIRY DATE	03 April 2022

DATE 04 April 2019 **CHAIRPERSON** (Professor J Knight)

cc: Supervisor : Professor C Storbeck

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

Signature 05/04/2019 Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix 2*: Permission letters (Data collection)*

HALMASHAURI YA MANISPAA YA MOSHI

(Barua zote zitumwe kwa Mkurugenzi wa Manispaa)

MKURUGENZI: **+255-027-2752344**

OFISI ZOTE: **+255-027- 2754371/4**
FAX: **+255-027-2752906**
BARUA PEPE: md@moshimc.go.tz
WEB SITE:www.moshimc.go.tz

UKUMBI WA MANISPAA,

S. L.P. 318,
MOSHI.

Kumb.Na.MMC/A.40/13/1/105 ***Tarehe:*** **23.09.2019**

Mkuu wa Shule,
Moshi Ufundi Sekondari,
MANISPAA YA MOSHI.

Att: Mr R. Lukumay
Please assist him.
Eng.
23/9/2019

HEADMASTER
MOSHI TECHNICAL SECONDARY SCHOOL
P. O. Box 3014 — MOSHI

YAH: KUMTAMBULISHA ILDEPHONCE MKAMA

Tafadhali rejea somo tajwa hapo juu.

Mkurugenzi wa Manispaa Moshi amepokea barua kutoka kwa Katibu Tawala Wilaya Moshi yenye AB.316/376/03/228 ya tarehe **28.08.2019** inayohusu somo tajwa hapo juu ikimtambulisha ndugu huyo ambaye anafanya Utafiti kuhusu **"An in-depth Exploratin of the First Phase of Inclusive Deaf Education in Tanzania Kilimanjaro-Moshi Technical Secondary School".**

Kwa barua hii namtambulisha kwako kuwa amepata kibali cha kuendesha shughuli hiyo katika Shule yako. Zoezi hili litaanza mwezi **Septemba hadi Oktoba 2019.**

Unaombwa kumpa ushirikiano utakaohitajika. Aidha, anatakiwa kuzingatia sheria, kanuni na taratibu za nchi bila kuathiri ratiba ya kawaida ya Shule.

Nashukuru kwa ushirikiano.

Mfugale S.S.
Kny: MKURUGENZI WA MANISPAA
MOSHI

Kny Mkurugenzi wa Manispaa
Moshi

Nakala: Mkurugenzi wa Manispaa Aione kwenye jalada
MOSHI

JAMHURI YA MUUNGANO WA TANZANIA
OFISI YA RAIS
TAWALA ZA MIKOA NA SERIKALI ZA MITAA

Simu Na: (026) 2782912
2782913
Nukushi: (026) 2782914
Baruapepe: rc@njombe.go.tz
ras@njombe.go.tz
info@njombe.go.tz
Tovuti : www.njombe.go.tz



Ofisi ya Mkuu wa Mkoa
S.L.P. 668
NJOMBE

Unapojibu tafadhali taja:
Kumb.Na. **AB. 301/326/01E/86**

13 Juni, 2019

Wakurugenzi wa Miji
Halmashauri za Miji
NJOMBE NA MAKAMBAKO

Wakurugenzi Watendaji
Halmashauri za Wilaya
NJOMBE, LUDEWA, MAKETE NA WANGING'OMBE

YAH: KUMTAMBULISHA KWENU ILDEPHONCE MKAMA

Tafadhali husika na somo tajwa hapo juu.

Mtajwa hapo juu ni Mwanafunzi wa Ph.D katika Chuo Kikuu Witwatersand Johannesburg. Kwa kipindi hiki anapaswa kufanya utafiti (**Research**) ili kukamilisha masomo yake. Atafanya utafiti kuhusu "***An In – depth Expioration of the First Phase of Inclusive Deaf Education in Tanzania***"

Kwa barua hii namtambulisha kwako ili umpe ushirikiano anaohitaji.

Ahsante kwa ushirikiano.

Yohana D. Mkumbo
K.n.y. KATIBU TAWALA MKOA

Nakala: Ildephonce Mkama

KANISA LA KIINJILI LA KILUTHERI TANZANIA
EVANGELICAL LUTHERAN CHURCH IN TANZANIA

KITUO CHA ELIMU KWA VIZIWI,
S.L.P. 693/783,
NJOMBE.

PHONE: +255 755 569 761
E-mail: angavatula@gmail.com /
viziwinjombe@yahoo.com

Ref. No. NJ.08/2/017/130/08 26/07/2019

Dear Ildephonce Mkama,

RE: PERMISSION TO CONDUCT YOUR RESEARCH.

Reference is made to the letter AB.301/326/01E/86 of 13th June 2019. I am glad to inform you that your request has been accepted, and thus, you are allowed to conduct your study on **"An In-depth Exploration of the first Phase of Inclusive Deaf Education in Tanzania"** in our School.

The school will accord any assistance required thereof.

Yours sincerely,

Rev. Alphonce Ngavatula
DIRECTOR OF NJOMBE DEAF SCHOOLS.

DIRECTOR
P.O.BOX 693/783
NJOMBE
ELCT-CENTRE FOR THE DEAF

The United Republic of Tanzania

PRESIDENT'S OFFICE

REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

Telegrams: **MKUUMKOA**
Telephone: 026 2604058/2604116
Fax: 026 – 2604274
Email: ras.tabora@tamisemi.go.tz



Regional Commission's Office,
P.O.Box. 25,
TABORA.

Ref No AC. 54/218/01.D/12

13th May, 2019.

Municipal Excutive Director
TABORA MANICIPAL.

REF: RESEARCH PERMIT.

Please refer to the heading above.

We received a letters from Ildephonce Mkama, a student in the School of Education at the University of the Witwatersrand, Johannesburg of 08th May, 2019 and Archbishop Mihayo University College of Tabora (AMUCTA) with Ref No: STAFF/PF/Vol.1/44 of 13th May, 2019, that request a consent to conduct a research on " **An In – depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania**".The research will be held from 14th May, 2019 at Kazima Secondary School. The study will involve students, teachers, Head of School and District Education Officers to have data base to be used by academic staff in writing PhD Dissertations.

For this letter I grant permission for later to be held in your School. I call your support to Him.

Yours sincerely,

Rukia S. Manduta
FOR: REGIONAL ADMINISTRATIVE SECRETARY
TABORA

For REGIONAL ADMINISTRATIVE SECRETARY
TABORA

Copy: **ILDEPHONCE MKAMA**

THE UNITED REPUBLIC OF TANZANIA
PRIME MINISTER'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
TABORA MUNICIPAL COUNCIL

(All correspondence should be forwarded to the Municipal Director)

TABORA REGION
TEL: 026 2604315/6088

MUNICIPAL DIRECTORS' OFFICE
P.O. BOX 174 – TABORA.

Ref. No. TMC/RES/01/VOL.II/356 Date: 14/5/2019

To:

KAZIMA SEC SCHOOL

OK 15/5/2019
HEAD MASTER
KAZIMA SECONDARY SCHOOL
TABORA

RE: REQUEST FOR UNDERTAKING RESEARCH

Please refer to the heading above.

I am pleased to inform you that **ILDEPHONCE MKAMA** is a student from University Of The Witwaters Rand ,Johnlsbarg has requested to conduct his research on An In depth Exploration of the first phase of inclusive Deaf Education in Tanzania

Kindly you are requested to host him so that he can accomplish this important academic task. Your school will not incur any cost.

.....
FOR MUNICIPAL DIRECTOR
P O BOX 174
TABORA

For: MUNICIPAL SECONDARY EDUCATION OFFICE
TABORA

LESSO DEVELOPMENT / MTIRIRIKO W. OMO

STAGE (HATUA)	TIME (MUDA)	TEACHING ACTIVITIES (VITENDO VYA UFUNDISHAJI)	LEARNING ACTIVITIES (VITENDO VYA UJIFUNZAJI)	ASSESSMENT (VITENDO VYA UPIMAJI)
INTRODUCTION (UTANGULIZI)	05 MIN	- Guiding students to answer questions from the previous taught matter	Answering questions from the past taught matter.	To observe if each student is able to answer questions
NEW KNOWLEDGE (UJUZI MPYA)	10 MIN	- Guiding students to ① Brainstorm the concept fire ② Explain the type of fire (classes of fire)	- Brainstorming the concept fire. - Explaining the classes of fire.	- To observe if each student is able to, ① define fire ② Identify the classes of fire.
REINFORCEMENT / APPLICATION (KUIMARISHA MAARIFA STADI NA MATUMIZI)	10 MIN	Guiding student to explain type of fire extinguishers with reference to what burns	- Explaining the types of fire, extinguishers referring to materials that burn.	- To observe if each student is able to identify the type extinguisher
REFLECTION (KUTAFAKARI)	10 MIN	Guiding students to explain on how to use fire extinguisher in their real life.	- Making demonstration on how to use fire extinguisher	- To observe if each student is able demonstrate use of fire extinguishers
CONSOLIDATION HITIMISHO/ SHIRIKISHI	05 MIN	- Guiding students to Answer question as part of summary	Making Summary by Answering question in their exercise	- To observe if each stude is able provide correct answer.

PUPIL'S EVALUATION (TATHIMINI YA WANAFUNZI) Students reported the lesson was good

TEACHER'S EVALUATION 18 students out of 20 student managed to give correctly answer

REMARKS (MAONI) Next time I will proceed with the basic principle for scientific investig

SIGNATURE OF SUBJECT TEACHER [signature]

HEAD OF SCHOOL REMARKS [illegible]

11-03-2019

Appendix 4*: Sampled Schools' general timetable*



GENERAL SCHOOL LESSON SCHEDULE FOR 2019

MONDAY

DAY	FORM	1 7:50-8:30	2 8:30-9:10	3 9:10-9:50	4 9:50-10:30	10:30-11:00	5 11:00-11:40	6 11:40-12:20	7 12:20-13:00	8 13:00-13:40	13:40-13:50	9 13:50-14:30	14:30-15:10	EXTRA CURICULA 15:30-16:30
STUDENTS	1A	TEST	TEST	MATH.BM	MATH. RM		CHEM. PM	CHEM. PM	HIST. FM	HIST.FM				
	IB	TEST	TEST	MATH. BM	MATH. BM		CHEM. PM	CHEM. PM	ENGL. FK	ENGL. FK				
	IC	TEST	TEST	KISW. GM	KISW. GM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIA	TEST	TEST	ENG. CM	ENG.CM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIB	TEST	TEST	HIST. DM	HIST.DM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIC	TEST	TEST	BIOL.NF	BIOL.NF		MATHS.FK	MATHS.FK	CHEM. RT	CHEM. RT				
	IIIA	TEST	TEST	BIOL.NF	BIOL.NF		ENG.FK	ENG.FK	BIOL.AM	BIOL.AM				
	IIIB	TEST	TEST	BIOL.NF	BIOL.NF		MATHS.FK	MATHS.FK	CHEM. RT	CHEM. RT				
	IIIC	TEST	TEST	BIOL.NF	BIOL.NF		ENGL. FK	ENGL. FK	KISW. JM	KISW. JM				
	IVA	TEST	TEST	PHYS. FM	PHYS. FM		GEOG.MP	GEOG. MP	CIVICS. PS	CIVICS. PS				
	IVB	TEST	TEST	PHYS. FM	PHYS. FM		KISW. GA	LIBRARY	ENG. FJ	ENG.FJ				
	IVC	TEST	TEST	PHYS. FM	PHYS. FM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	1A	GEOG.MJ	GEOG.MJ	MATHS.BM	MATHS.BM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IB	ENGL. FK	ENGL. FK	MATH. BM	MATH. BM		CHEM. PM	CHEM. PM	KISWAH.BW	KISWAH.BW				
	IC	HIST. FM	HIST.FM	MATH. BM	MATH. BM		CHEM. PM	CHEM. PM	ENGL. FK	ENGL. FK				
	IIA	ENG. CM	ENG.CM	CHEM. P.M	CHEM. P.M		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIB	KISW. MPM	KISW. MPM	CHEM.	CHEM.P.M		CHEM. PM	CHEM. PM	KISWAH.BW	KISWAH.BW				
	IIC	GEOG. HK	GEOG.HK	CHEM. P.M	CHEM. P.M		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIIA	CIVICS. PS	CIVICS. PS	MATH. FK	MATH. FK		CHEM. PM	CHEM. PM	HIST. FM	HIST.FM				
	IIIB	ENGL. FK	ENGL. FK	MATH. BM	MATH. BM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IIIC	HIST. FM	HIST.FM	MATH. BM	MATH. BM		MATH. BM	MATH. BM	PHYS. TM	PHYS. TM				
	IVA	TEST	TEST	PHYS. FM	PHYS. FM		MATHS.FK	MATHS.FK	CHEM. RT	CHEM. RT				
	IVB	TEST	TEST	PHYS. FM	PHYS. FM		ENG.FK	ENG.FK	BIOL.AM	BIOL.AM				
	IVC	TEST	TEST	PHYS. FM	PHYS. FM		MATHS.FK	MATHS.FK	CHEM. RT	CHEM. RT				
	1A	GEOG.MJ	GEOG.MJ	MATHS.BM	MATHS.BM		MATHS.FK	MATHS.FK	CHEM. RT	CHEM. RT				
	IB	ENGL. FK	ENGL. FK	MATH. BM	MATH. BM		CIVICS. PM	CIVICS. PM	BIOL.AM	BIOL .AM				
	IC	HIST. FM	HIST.FM	MATH. BM	MATH. BM		KISWAH.BW	GEOG. MJ	BIOL.AM	BIOL.AM				
	IIA	ENG. CM	ENG.CM	CHEM. P.M	CHEM. P.M		MATH. BM	MATH. BM	COMPUTER	COMPUTER				
	IIB	KISW. MPM	KISW. MPM	CHEM.	CHEM.P.M		MATH. BM	MATH. BM	COMPUTER	COMPUTER				
	IIC	GEOG. HK	GEOG.HK	CHEM. P.M	CHEM. P.M		MATH. BM	MATH. BM	COMPUTER	COMPUTER				
	IIIA	CIVICS. PS	CIVICS. PS	MATH. FK	MATH. FK		CHEM. RT	CHEM. RT	PHYS. TM	PHYS. TM				

..SPORTS & GAMES FI &FI

:.SELFRELIANCEFII&III

Appendix 5*: Consent Form for Focus Group Discussion (Deaf students)*

Title of research: An In-depth Exploration of the First Phase of Inclusive Deaf education in Tanzania

Name of researcher: Ildephonce Mkama

I, the participant, agree to participate in this focus group discussion. The research has been explained to me and I understand what my participation will involve.

I agree that the researcher may use anonymous quotes

in his research report YES NO (please circle)

I agree that the discussion may be video recorded YES NO

I agree to keep the focus group discussion confidential YES NO

Signature……

Date……

Appendix 6*: Consent form for personal interview*

Title of research: An In-depth Exploration of the First Phase of Inclusive Deaf education in Tanzania

Name of researcher: Ildephonce Mkama

I, *the participant*, agree to participate in this research project. The research has been explained to me and I understand what my participation will involve.

I agree that my participation will remain anonymous YES NO (please circle)

I agree that the researcher may use anonymous quotes

in his research report YES NO

I agree that the interview may be audio recorded YES NO

I agree that the information I provide may be used YES NO

anonymously by other researchers following this study

0765 512 101

Signature……

Date……

Appendix 7*: Consent form for classroom observation (Teachers)*

Title of research: An In-depth Exploration of the First Phase of Inclusive Deaf education in Tanzania

Name of researcher: Ildephonce Mkama

I, *the participant*, agree to participate in this classroom observation. The research has been explained to me and I understand what my participation will involve.

I agree that my participation will be concealed by the researcher	YES	NO	(please circle)
I agree that the researcher may use anonymous quotes in his research report	YES	NO	
I agree that the classroom discussion may be video recorded	YES	NO	
I agree that the information observed may be used anonymously by other researchers following this study	YES	NO	

…… (signature)

…… (date)

Appendix 8: *Deaf students' information sheet for focus group discussion* (FGD)

University of the Witwatersrand, Johannesburg

Private Bag 3, Wits 2050

South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my study, I am conducting a research titled "An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania"**.** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. The FGD is a group interview in which questions are discussed by the whole group. I invite you to participate in this FGD to share your invaluable knowledge of Deaf education. This session will take place at a quiet place where there will be no interference and will take about one hour. You may not receive any benefit to participate in this study nor will you be exposed to any risk by refusing to participate. The refusal to participate has no effect on your studies and relationship with the researcher.

This is an informal discussion in which we are all equal and so do not feel intimidated as none of our answers are either wrong or right because we are brainstorming and recounting our experiences in inclusive education. It is, therefore, alright to disagree with what other members of the group are saying and to say things as we have experienced them in this school rather than being theoretical. All that you say here will be reported anonymously so that no one outside this group will ever know what you as an individual said. Before the discussion we will agree as a group that our discussion will remain confidential and NO part of this discussion will be shared with your teachers. We will again confirm confidential group agreement at the end of the focus group discussion.

I will video record the focus group for research purposes – that means that your face and identity will be captured on film. However, as committed before, I will not use this film publicly and so your identity will not be revealed. The decision to participate in this FGD is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the researcher of this study. You have the right not to answer any single question, as well as to withdraw completely from the discussion at any point during the process. Additionally, you have the right to request that the researcher not to use any of your discussion materials.

You have the right to ask questions about this research and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact in the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za

Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za
Supervisor's name: **Professor Claudine Storbeck**
Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 9: *Education officer's information sheet*

University of the Witwatersrand, Johannesburg
Private Bag 3, Wits 2050
South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my study, I am conducting a research titled "**An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania".** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. It is intended that the findings of this study will be made available on university website. I invite you to participate in this interview to share your invaluable knowledge on Deaf education. You are chosen to participate in this study because you have been a key leader of education management in your administrative region. Thus, this session will take about one hour. You are not entitled to any benefits by participating in this study nor any risk for not participating.

This interview will be anonymous. I will not be collecting or retaining any information about your identity. The records of this interview will be kept strictly confidential. Research records will be kept in a locked file and all electronic information will be coded and secured using a password protected file. I will not include any information that would make it possible to identify you. Your identity will be disclosed in the material that is published.

I will audio record this session for further revisions. The decision to participate in this interview is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the researcher of this study. You have the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not to use any of your interview materials.

You have the right to ask questions about this study and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact on the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za

Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za

Supervisor's name: **Professor Claudine Storbeck**

Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 10*: Headmaster's information sheet*

University of the Witwatersrand, Johannesburg
Private Bag 3, Wits 2050
South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my studies, I am conducting a research titled "**An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania".** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. It is intended that the findings of this study will be made available on university website. I invite you to participate in this interview to share your invaluable knowledge experience with Deaf education. This session will take about one hour. You are not entitled to any benefits by participating in this study nor any risk for not participating.

This interview will be anonymous. I will not be collecting or retaining any information about your identity. The records of this interview will be kept strictly confidential. Research records will be kept in a locked file and all electronic information will be coded and secured using a password protected file. I will not include any information that would make it possible to identify you. Your identity will be disclosed in the material that is published.

I will audio record this session for further revisions. The decision to participate in this interview is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the researcher of this study. You have the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not to use any of your interview materials.

You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact on the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za

Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za
Supervisor's name: **Professor Claudine Storbeck**

Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 11*: Student's information sheet*

University of the Witwatersrand, Johannesburg

Private Bag 3, Wits 2050

South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my studies, I am conducting a research titled "**An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania".** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. I invite you to participate in this interview to share your invaluable knowledge on Deaf education. This session will take about one hour. You are not entitled to any benefits by participating in this study nor any risk for not participating.

Remember, this is not a test, it is not for marks and it is voluntary, which means that you don't have to do it. Also, if you decide halfway through that you prefer to stop, this is completely your choice and will not affect you negatively in any way.

I will not use your own name but I will make one up so no one can identify you. All information about you will be kept confidential in all my writing in this study. Also, all collected information will be stored safely and destroyed between 3-5 years after I have completed my project.

You have the right to ask questions about this study and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za

Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za

Supervisor's name: **Professor Claudine Storbeck**
Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 12*: Participant's information sheet*

University of the Witwatersrand, Johannesburg
Private Bag 3, Wits 2050
South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my studies, I am conducting a research titled "**An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania".** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. It is intended that the findings of this study will be made available on university website. I invite you to participate in this interview to share your invaluable knowledge on Deaf education. This session will take about one hour. You are not entitled to any benefits by participating in this study nor any risk for not participating.

This interview will be anonymous. I will not be collecting or retaining any information about your identity. The records of this interview will be kept strictly confidential. Research records will be kept in a locked file and all electronic information will be coded and secured using a password protected file. I will not include any information that would make it possible to identify you. Your identity will be disclosed in the material that is published.

I will audio record this session for further revisions. The decision to participate in this interview is entirely up to you. You may refuse to take part in the study at any time without affecting your relationship with the investigator of this study. You have the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process. Additionally, you have the right to request that the interviewer not to use any of your interview materials.

You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za

Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za

Supervisor's name: **Professor Claudine Storbeck**

Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 13*: Participant's information sheet for classroom observation*

University of the Witwatersrand, Johannesburg
Private Bag 3, Wits 2050
South Africa

Hello,

My name is Ildephonce Mkama and I am a Ph.D. student in Deaf Education at Wits University, Johannesburg. As part of my studies, I am conducting a research titled "**An In-depth Exploration of the First Phase of Inclusive Deaf Education in Tanzania".** This research intends to explore the ways in which the first phase of inclusive education has influenced the academic progress of Deaf students in inclusive schools. I invite you to participate in this observation and feel free to teach in a natural setting. This session will take whole class duration.

All that I observe will be reported anonymously so that no one will ever know what you as an individual said. The decision to participate in this classroom observation is entirely up to you. You may refuse to take part in the observation at any time without affecting your relationship with the investigator of this study. You have the right to refuse to be observed or your information not to be used in this study.

You have the right to ask questions about this study and to have those questions answered by me before, during or after the research. If you have any further questions about this study, at any time feel free to contact the address below. If you have any queries, concerns or complaints regarding the ethical procedures of this study, you are welcome to contact the University Human Research Ethics Committee (non-medical), telephone + 27(0)11 717 1408, email Shaun.Schoeman@wits.ac.za
Yours sincerely,

Ildephonce Mkama

Researcher's name: **Ildephonce Mkama** Phone: +255 754884208

Email: mkamaijmc@yahoo.com or 2060237@students.wits.ac.za

Supervisor's name: **Professor Claudine Storbeck**

Phone Number: +27 83 324 1588 Email: claudine.strobeck@gmail.com

Appendix 14*: Interview guide for teachers*

Stage 1: Participant's Biography

Date: …….. School……...

Head of School / Specialist / Non-specialist:

A number of years at this school:

Current Form teaching:

A number of Deaf students in class:

Stage 2: Reflecting on the conception of Deafness

1.0 Please share with me what you understand about Deafness.
2.0 Tell me how you feel when teaching Deaf students.
3.0 How do you teach new concepts to Deaf students?
4.0 How best do Deaf students learn in inclusive schools?

Stage 3: Reflection on school culture accommodation

1.0 To what extent do consider Deaf students in daily school routines? Is there any consideration?

2.0 What criteria do you use when you plan for school policies, daily programmes, general school timetable, and extra-curriculum activities? How do you promote friendship, participation, and cooperation among students in classes/school?

3.0 What language do you use for facilitating school communication and what is the reason for your choice?

4.0 How do you handle students' cultural diversity outside the classes?

5.0 In what ways do you assist Deaf students to develop their Deaf identity and self-esteem in the inclusive school setting?

6.0 What type of disability or diversity may be existing among students in your inclusive school/class? (if you know any)

7.0 To what extent are the existing inclusive education policies and practices relevant to Deaf students and their learning environment?
8.0 How inclusive is the school/classroom management, administration, and organization?
9.0 What expectations do you have toward Deaf students' examination results, and why?

THANK YOU VERY MUCH

Appendix 15*: Interview guide for Deaf students*

Stage 1: Participant's Biography

Date: …….. School……...

Current Form:

……..

Stage 2: Reflecting on the conception of Deafness

1.0 How do you ask questions to teachers when they are teaching in class?

2.0 What do you do when you don't understand a concept in class?

3.0 Do you feel any problem when studying with hearing students in classes? Around the school premises?

4.0 What would you suggest for best practices for the academic progress of Deaf students in inclusive schools?

5.0 To what extent do teachers assist you when you have problems?

Stage 3: Reflection on school culture accommodation

1.0 How does the school enable you to learn in an inclusive school/class? How do you feel when you study with hearing students in classes/school?

2.0 How do teachers treat you when you do wrong?

3.0 How is the school making the use of sign language in its daily school operations?

4.0 How do you cope with hearing students around the school premises?

5.0 How do you feel studying together with hearing students in one class/school?

THANK YOU VERY MUCH

Appendix 16*: Interview guide for hearing students*

Stage 1: Participant's Biography

Date: …….. School……...

Current Form:

Stage 2: Reflecting on the conception of Deafness

1.0 How do you when you want to discuss a concept with Deaf students in class?

2.0 How often do you ask Deaf students to help you on a concept you did not understand in class?....why?

3.0 What would you suggest for best practices of studying with Deaf students in inclusive schools?

Stage 3: Reflection on school culture accommodation

1.0 How often do you study and cooperate with Deaf students in class, discussion groups? How do you feel when you study with Deaf students in classes/school? And why?

2.0 How often does the school promote the use of sign language within the school compounds?

THANK YOU VERY MUCH

Appendix 17*: Documentary analysis*

Name of the department administering policy:

……

Designation of the officer issuing policy:

……

Type of document: …… Targeted implementer (s)……..

1. Aims and objectives of policy/document:

2. Stated implementation strategies:

3. Explicit ideology and beliefs about teaching in policy/document:

4. Explicit knowledge and beliefs about Deafness in policy/document:

5. Explicit beliefs about school infrastructure in policy/document:

Appendix 18*: Observation scheme*

School		Date	
Class/Setting		**Subject/Activity**	
This observation involves the knowledge, attitude, and skills required to create an inclusive Deaf education culture of a class/school.			
Start observations		**End observations**	

1. Methods used by teachers to teach inclusive classes with Deaf students
2. Ways in which teachers work with Deaf students outside the classroom
3. Ways in which hearing students cooperate with Deaf students in and outside classes
4. Deaf learning accommodation facilities in schools

Appendix 19*: Focus Group Discussion with Deaf students*

Date: Time: School:

Focus group protocol

This is an informal discussion in which we are all equal and so do not feel intimidated as none of our answers are either wrong or right because we are brainstorming and remembering our experiences in inclusive education. It is therefore alright to disagree with what other members of the group are saying and to say things as we have experienced them in this school rather than being bookish. All that you say here will be reported anonymously so that no one outside this group will ever know what you as an individual said.

Discussion Items

1.0 Initial and current impressions of studying in an inclusive class.

[***Associated prompts*:** Tell me the story of how you feel studying with hearing students in an inclusive setting, your first impressions and your impressions now.]

2.0 Compare Deaf and hearing children's learning accommodation.

[***Associated prompts***: When you think about learning accommodation between you and hearing students, do you feel any difference? To what do you attribute the differences/similarities?]

3.0To what do you attribute most Deaf learners' not proceeding beyond secondary education?

4.0 The ways the school/teachers are concerned about you.

[***Associated prompts***: How would you describe the ways teachers teach you in class? What makes it different from hearing students]

5.0 How far are you benefiting from teaching methods used in class?

6.0 Is there anything that you think is important for this study but that has not been raised in this discussion?

THANK YOU FOR YOUR TIME