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A PhD Dissertation on

Exploring Problems Encountered by Deaf/Hard of Hearing Students in Comprehending What They Read in EFL

By: Bereket H/Mariam

Advisor: Mendida Berkessa (PhD, Associate Professor)

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Exploring Problems Encountered by Deaf/Hard of Hearing Students in Comprehending What They Read in EFL: The case of Hossana Mekane Eyesus School for the Deaf

Bereket H/Mariam

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Original literacy work declaration

This is to certify that the thesis prepared by Bereket H/mariam entitled: **Exploring Problems Encountered by Deaf/Hard of Hearing Students in Comprehending What They Read in EFL: The case of Hossana Mekane Eyesus School for the Deaf** and submitted in fulfillment of the requirements for the Degree of Doctor of Philosophy (Teaching English as a Foreign Language) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

The general objective of this study was to assess the problems encountered by deaf students in comprehending what they read in EFL. Accordingly, it determined the present reading comprehension level of grade 9-12 deaf students of Mekane Eyesus School for the Deaf, Hossana; it examined deaf students' related factors that affect their EFL reading comprehension (background knowledge, motivation to read and reading strategies use); it also examined EFL teachers' related factors that affect deaf students reading comprehension. Besides, correlations and predictive power of the factors of deaf reading comprehension were investigated. A mixed-method research approach was used under the umbrella of pragmatic research paradigm, particularly; descriptive co-relational study design was chosen. The samples were purposively selected 114 grade 9 to 12 deaf students and conveniently selected four EFL teachers. The data were collected through reading comprehension test, Motivation for Reading Questionnaire (MRQ) and EFL teachers' interview. The data from the test and the questionnaire were analyzed using descriptive statistics (mean, std. deviation, frequency and percentage) and inferential statistics (Persons' r correlation coefficient, Spearman's correlation coefficient and Linear regression) analysis. The data from the interview were transcribed into text, coded into nodes and put into different maps and theoretical models by using Nvivo 12 Pro qualitative data analysis software. The test revealed overall low (struggling readers) reading comprehension with (M = 42, SD = 20) which is a reading comprehension score of below 60%. The questionnaire yielded three deaf students' related factors. 1. In relation to background knowledge, deaf students indicated that prior knowledge of a text's topic sometimes enable them to comprehend what they read in EFL with (M = 3.09 and SD = . 46). 2. In relation to motivation to read, the MRQ revealed that deaf students sometimes Intrinsically, Extrinsically and Overall motivated to read with (M = 3.4 and SD = .62), (M =3.35 and SD = .63) and (M = 3.37 and SD = .62) respectively. 3. In relation to reading strategies use, the majority of the sample reported medium level use with (M = 2.5 to 3.4) under each of the Global, Problem-solving, Support and Overall Reading Strategies use. The interview analysis along with word cloud as well produced the factors in four parent nodes basis and were consistent with the findings of the questionnaire. Regarding the correlation between reading comprehension ability and factors of reading comprehension, The correlation was a modest positive significant for background knowledge with (pearson's r = .243 and p = .009). Besides, the correlation was a modest positive significant for Intrinsic motivation and Overall motivation to read with (Spearman's correlation coefficient = .196 and p = .037) and (Spearman's correlation coefficient = .282 and p = .002) respectively. However, the correlation was a moderate positive significant for Extrinsic motivation to read with (Spearman's correlation coefficient = .324 and p = .000). For the reading strategies use the findings indicated, a moderate positive significant correlation for Overall reading strategies use with (Spearman's correlation coefficient = .199 and p = .034) and a very strong positive significant correlation for Problem-solving reading strategies use with (Spearman's correlation coefficient = .93 and p = .039). Finally, the linear regression model revealed that the variables of Background knowledge, Intrinsic motivation and Extrinsic motivation were significant $R^2 = .117$, $F(3, 110) = 4.880$, $p < .05$ suggesting that our predictors are modest at predicting reading comprehension. The model indicated that Extrinsic motivation was the most important predictor of reading comprehension with (β =.333, t = 3.674 and p = 0.009). The second important predictor of reading comprehension was Background knowledge with (β = .144, t = 1.308 and p =.019). The third important predictor of reading comprehension was Intrinsic motivation with (β = -.143, t = -1.144 and p = .025). Accordingly, recommendations were forwarded.

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Abbreviations and Acronyms

CTE - College of Teacher Education

D/HH - Deaf or Hard of Hearing

EFL - English as a Foreign Language

EGRA - Early Grade reading Assessment

ELT - English Language Teaching

ETQAA - Education and Training Quality Assurance Agency

FDRE - Federal Democratic Republic of Ethiopia

GEQIP - General Education Quality Improvement Program

IQPEP - Improving Quality in Primary Education Program

MOE - Ministry of Education

NLA - National Learning Assessment

REB - Regional Education Bureau

RTI - Research Triangle Institute

SNERC - Special Need Education Resource Center

SNNPR - Southern Nations, Nationalities and People's Region

TA - Teacher 1

TB - Teacher 2

TC - Teacher 3

TD - Teacher 4

UN - United Nations

USAID - United States Agency for International Development

WEO - Woreda Education Office

Wpm - words per minute

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Chapter One

Introduction

1.1 The Context of the Study

This study was conducted in the Federal Democratic Republic of Ethiopia. Found in the Horn of Africa bordering with Eritrea to the north, Djibouti and Somalia to the East, Sudan and South Sudan to the West and Kenya to the South, the Federal Democratic Republic of Ethiopia covers an area of 1,100,000 square kilometers. With above 120, 000, 000 inhabitants, Ethiopia is the second-most populated country in Africa. A multilingual and multiethnic country of more than eighty nations, nationalities and peoples, Ethiopia is a founding member of the United Nations, the Non-Allied MovementG77, the Organization of African Unity, the Pan African Chamber of Commerce, the United Nations Economic Commission for Africa and the African Standby Force. Ethiopia is known for, among other things, her contribution to anthropological research (e.g. the discovery of Lucy, the skeleton of a female Australopithecus afarensis discovered in 1974, and other subsequent discoveries), the unique calendar, the syllabic alphabet called Ethiopic, the unique heritages (e.g. the Akum Obelisks in Tigray, the Lalibela Rock Hewn Churches and the Gondar Castles in the Amhara Region, the Nejashi Mosque in Tigray, the Jagol Building in Harar, the terrace building tradition of the Konso people) and the generations of prominent athletes. Ethiopia is also known for its victory over the Italian colonial power at the Battle of Adwa in 1936 (Ethiopia retained its national sovereignty during the 19 Century Scramble for Africa) and its export of organic coffee. The capital city of Ethiopia, Addis Ababa, is a seat of several international organizations such as the African Union (AU) Head Quarters.

The country's long history of drought and famine is giving way to development and transformation. Reports show that Ethiopia's economy is currently one of the fastest-growing economies in Africa. Although agriculture is the fore-driver of Ethiopia's economic growth, infrastructure, industry and tourism are also undergoing rapid development. Export is diversifying and improving qualitatively; health services have grown in coverage and quality. Because of improvements in economic, social and political spheres, Ethiopia is gaining international importance in many respects. For instance, Ethiopia is a key ally of the US in the

fight against terrorism, and has established strong economic ties with the emerging China. The country also plays vital roles in African affairs such as conflict resolution and peace-keeping. Along with positive changes in the economic, political and social spheres, significant developments are being registered in the education sector especially in terms coverage and equity.

Ethiopia's growing participation in economic, social, political and military activities of the world entails the need for improvement in its international communication which is currently possible through English. Thus, policy makers, diplomats, economists, business actors, social workers, educators, lawyers, researchers, media personnel, military officers, police officers and tourist guides who use English fluently and appropriately are highly needed. To address this demand, it is important to improve the quality of English language teaching/learning in the country. It follows that whether the English language education at all levels meets the expectation must be examined consistently. One way of doing this is conducting studies to assess the input, process and product of the English language instruction in the country.

Educating citizens was mainly the responsibility of governments for a long time since the introduction of modern education to Ethiopia. However, with the coming to power of the Ethiopian People Republic and Democratic Front (EPRDF) government in 1991, privatization was declared although there still are some concerns about the fairness of the practice. This declaration encouraged the private sector (local and international) to invest in all levels of education. As a result, local private kindergartens, primary schools, high schools, preparatory schools and higher learning institutions have emerged in the main towns of the country, especially in the city of Addis Ababa. Currently, there are also international private schools and foreign community schools which are contributing to the development of education. This implies that successful educational accomplishments registered in the country are not only attributable to the endeavors of government (public) institutions, but local private schools, international private schools and foreign community schools also take their shares of the success story. Likewise, problems encountered in education concern all types of educational institutions and their personnel. Therefore, studies which aim to investigate the various aspects of education in general and English language education in particular should, in one way or the other, address both public and non-public educational institutions.

Since the 1940's, according to Negash (1990:0), Ethiopia has experienced three system of political governance, each distinguished by its education policy. The first system of governance was the Imperial system that started in 1941 and lasted until 1974. The second was the military socialist system that lasted until 1991. The third is the federal system of governance which becomes fully operational after 1994. Therefore, it is worth importance to have a general understanding of how educational development was undergone in Ethiopia through these particular regimes.

Education policy in the imperial regime (1941 - 1970)

A significant age of modern education in Ethiopia is usually considered to be the year between 1941 and 1970. It is debatable what the Emperor intended by education and progress but his numerous statements on the subject indicate that modern education was to enrich Ethiopia civilization. We can find the following point regarding education during the imperial regime.

The official policy during the period of Emperor Haile Sellassie was that Ethiopia, as an ancient and civilized society, should opt for a carefully selected adaptation of European ideas and systems. In practice, however, the imperial regime and very little to inculcate respect for Ethiopian traditions of social and political organization. It left the curriculum and most of the teaching in secondary schools to expatriates who quite naturally spread the gospel of modernization (Negash, 1990: 74).

The Emperor and his government might have believed that they were laying down the foundations for the modernization of the communication of the country but they did not pay enough attention to the communication gaps between the generations that modern schools were creating.

The socialist system government policy of education in Ethiopia (1974- 1990)

The Ethiopian political system that prevailed in the country between 1974 and 1991 was socialist/communist workers' party. The fundamental government in the early 1980s, was to cultivate Marxist-Lennist ideology in the young generation, to develop knowledge in science and technology and to integrate and coordinate research with production so as to enable the revolution to move forward and secure productive citizens. Curriculum was duly produced where

five subjects namely, agriculture, production technology; home economics and introduction to business were focused on.

The Ethiopian People Republic and Democratic Front (EPRDF) government system policy of education in Ethiopia (1994 – 2017)

With the downfall of the socialist system government in 1991 and owing to sustained resistance from various political factions, Ethiopia went through significant social and political changes. EPRDF and other opposition parties constituting the transitional government of Ethiopia first proclaimed the rights of every nation, nationalities of Ethiopia to use and develop its languages and cultures (TGE, 1992). This was further strengthened and confirmed in the Ethiopia constitution of 1994. To put this into effect, the Ministry of Education of Ethiopia proclaimed a new Education and Training Policy in 1994, which, among many other aspects, put the use of mother tongues into primary education (Grades 1-8).

With the coming of EPRDF into power, Ethiopia was transformed from a single party based political system into a 'multi-party' and multiethnic political system. It underwent another change, from a centrally controlled government system into a decentralized administrative system, as a direct result of the newly constituted federal political system. Finally, Ethiopia made a radical shift from a monolingual and mono-cultural policy of education and administration into a multilingual and multicultural system.

A multilingual policy is understood as a way of mechanism to solve the cultural and linguistic hegemony of one group in relation to others. It is believed that multi-lingualism is the best way of solving the long-standing nationality questions of the right to use languages and recognize cultures for any purpose people wish.

The Prosperity Party (PP) government system policy of education in Ethiopia (2018- 2030)

Put in place the structure of Integrated Functional Adult Education considering lifelong learning. Revisit the structure of education system (4-4-2-2) to allow the secondary education to stretch from grade 9-12. That is to in place the 6-2-4 system (6 years of primary education and 2 years upper primary/lower secondary or junior secondary education) and 4 years of secondary education), so that such structure will give children an opportunity to get mentally, socially and

emotionally matured to benefit from the curriculum and lessons designed for the level. There will be certification examination for completion of primary education and secondary education. Reinstate the undergraduate programs, for a minimum of 4 years, longer than the present one. The post-secondary education (university education, TVET and Teachers Training) all will recruit students who have completed secondary education (grade 12 leaving national examination).

Include the TVET for primary school leavers in the structure of the education system, and introduce the vocational education in the curriculum so that practical gaps could be addressed. Vocationalized or competency based curriculum should be introduced. In addition, the practical and skill domains should be balanced with the knowledge and attitude components of the curriculum. In place a track system for graduates of TVET who want to join HEIs. Have Technical Universities that can provide up to Masters Level and practice oriented research in industry. Other HEIs or traditional universities with academic and research, offering postgraduate studies and PhD focused.

According to the new educational road map, there is a need to revisit the issues on medium of instruction and English language teaching approach. The medium of instruction issue is not an academic issue alone; there must be broader discussion and consensus on language policy. Have policy, flexible medium of instruction for general and technical education benefits students and trainees to capture knowledge and skills during education and training. Implementing trilingual as strategized in the policy for inter-regional mobility and unity, and promotion of some local languages for communication, education and research. The experiences from benchmarking visit shows 99 that primary and secondary education are taught by local/national language and English was given much focus as of lower primary education for internationalization. However, whether English is taught as a subject or used as a medium of instruction at different levels of schooling, it still has an EFL status in Ethiopia.

1. 2. Background of the study

Reading comprehension is the ultimate goal of reading. It has been described as a complex process because, at the very least, it relies on the appropriate interactions among the writers and readers, the text and the context (Weaver, 2002). The National Reading Panel (2000) stated that,

“comprehension is critically important to the development of children’s reading skills and therefore to the ability to obtain education. The UN Universal Declaration in 1948 on Human Rights declared providing education for all children. Consequently, all countries in the world are working towards it. However, this right of education is not being entertained by higher number of people because of different reasons among different society in the world. From many other factors, disability is one of constraints which hold back many people from education. It was estimated that 10% of the world’s children have physical, sensory, intellectual or mental health impairment. Almost 80% of these children with disability live in developing countries (Shiv, 2006). Hearing impairment, the key concern of this study, is one of the sensory impairments which are well recognized all over the world. Conceptually, it is the partial loss of the ability to hear (Hard of Hearing) or total loss of the ability to hear (Deafness) in one or both ears caused by damage to or malformation of one or more parts of the ear (Rafi, 2008).

For deaf and hard-of-hearing (d/hh) students, attainment of grade appropriate reading comprehension levels presents a specific challenge. Among these problematic issues deaf education and the factors that affect deaf students’ learning place their special position. The field of deaf education has long struggled to develop literacy skills among deaf and hard of hearing (d/hh) children that are comparable to the literacy achievement of their hearing peers. Among professionals who work with d/hh children, including parents, teachers, medical professionals and speech pathologists, there is significant disagreement about whether Sign Language (SL) or spoken English is the most appropriate linguistic tool for supporting d/hh children as they develop their English language and literacy skills. There is even disagreement regarding the factors that affect literacy development in this population.

Recent reading research shows that several key factors impede a student’s reading comprehension (Torgeson, 2002). For instance, phonemic awareness (The ability to process the individual sounds of letters), vocabulary skills (During reading, students continually process words to create meaning, and without a strong vocabulary base, students will struggle to understand what they have read.), low prior knowledge (poor general knowledge), motivation (Reading comprehension is hindered when students lose interest and disengage from reading) and reading strategies (Strategies that good readers use while reading, such as predicting, inferring and summarizing).

Historically, educators and researchers have favored the use of either sign or spoken English in the classroom, focusing on audio-logical skills, such as phonological awareness, phonics and English grammatical structures, presented either orally or manually through a signed representation of English. However, many children struggled and often failed to obtain grade-appropriate reading skills under this methodology (Allen, 1986). In studies dating back to the early 20th century, large numbers of deaf/hh students have performed at reading levels much below their expected grade levels. Pintner and colleagues are credited with numerous studies, which indicated that deaf/hh students, at the end of their secondary school education, had a median reading level of grade 4 (Pintner & Paterson, 1916, 1917). More than 90 years later, the median grade reading levels for deaf/hh high school graduates are still reported as being at the grade 4 reading level (Geers, Tobey, Moog, & Brenner, 2008; Marschark & Wauters, 2008; Rydberg, Gellerstedt, & Danermark, 2009).

These underachievement and lack of studies have been a source of immense concern for educators, researchers and students. A considerable portion of the research on deaf/hh students and reading comprehension has been conducted in North American, European countries and few African countries. Smaller replication studies have also been conducted in other countries to determine the universality of the challenges faced by deaf/hh students as well as to document how students perform on associated variables relate to their reading comprehension (Montreal & Hernandez, 2005; Wauters, Van Bon, & Tellings, 2006). In some instances, higher as well as lower reading comprehension levels have been reported.

The varying performance levels may be attributed to differences in the instructional practices, resources, learners' placement and cultural framework within which the education of the deaf/hh students takes place as well as the heterogeneous nature of deaf/hh populations in general.

The present study is intended to assess the problems encountered by deaf students in comprehending what they read in EFL classes: The case of Hossana Mekane Eyesus School for the Deaf.

1. 3. Statement of the Problem

Currently, many D/HH students are being enrolled and attending their education in boarding schools, regular schools and higher education in Ethiopia. According to the 2007 Population and Housing Census of Ethiopia, there were 805,492 people with disabilities, out of which 27,288 were deaf and 37,632 were hard of hearing. Most of these people are children and young (Central Statistical Agency, 2010; Sintayehu, 2015). Because of changes in awareness, attitude, policy, and legislation about disabilities in the country, D/HH students are frequently being educated in regular classrooms along with hearing peers (in integration approach) and/or separately (in segregation approach). As noted by many educators, one of the reasons for both of the approaches to D/HH students into the regular classroom is to facilitate positive interactions among D/HH and hearing students and help them to have equal achievement in their learning.

Yet deafness is of course, known to be associated with poor reading. For many students who are D/HH, reading is the academic area of greatest difficulty. It is not a secret that the majority of students who are deaf have poor reading skills. Traxler (2000) states that the average 17 year-old deaf high school student reads as grade 4 level.

Researchers have pointed to many particular literacy skills that may help to explain this persistent lag, most frequently a lack of phonological awareness knowledge (Luetke-Stahlman & Nielsen, 2003; Mayer, 2009; Park, Lombardino & Ritter, 2013; Paul & Lee, 2010), poor depth and breadth of vocabulary awareness (Hamilton, 2012; Williams, 2012), and lack of exposure to academic English(Hamilton, 2012; Mayer, 2009).

Whereas locally (Deginesh and Asrat, 2016) reviewed challenges of hearing impaired students in integrated class, in public schools in Ethiopia and found that absence of resources centers, lack of sign language skilled teachers, awareness gap among teachers and less collaboration and commitment among stakeholders to implement integration policy considered as a key challenges for hearing impaired students. However, no prior researches have examined the problems encountered by d/hh students in comprehending what they read in EFL classes. Particularly, the researcher feels that the problem prevails in Hossana Mekane Eyesus School for the Deaf as the school is the only one boarding school for deaf and enrolls several D/HH learners from every corner of the country.

All in all, the claims and counter- claims which have been made so far on the reading comprehension of d/hh students and the researcher EFL teaching experience in mainstreamed D/HH students classroom initiated the researcher to assess the problems encountered by deaf students in comprehending what they read in EFL classes. Therefore, the researcher focused on the following research questions:

1.4. Research questions

The study designed and attempted to answer one basic research question and five specific research questions.

1.4.1. Basic research question

1. What are the reading comprehension problems encountered by deaf students in English classes?

1.4.2. Specific research questions

1. What is the present reading comprehension level of grade 9-12 students of Mekane Eyesus School for the Deaf?
2. What are deaf students related factors that affect their EFL reading comprehension?
3. What are EFL teachers related factors that affect deaf students reading comprehension?
4. Is there relationship between the factors that affect deaf students EFL reading and their reading comprehension level?
5. To what extent does each of the factors that affect deaf students EFL reading comprehension predict their reading comprehension level?

1.5. Objectives

In this section, the researcher focused on the following general and specific objectives of the study.

1.5.1. General objective of the study

The general objective of this study was to assess the reading comprehension problems encountered by deaf students in English classes.

1.5.2. Specific objectives of the study

Based upon the main objective, this research was intended to achieve the following specific objectives.

1. To determine the present EFL reading comprehension level of grade 9-12 students of Mekane Eyesus School for theDeaf.
2. To examine deaf students' related factors that affect their English reading comprehension.
3. To identify English teachers related factors that affect deaf students reading comprehension.
4. To assess whether there is relationship between the factors that affect deaf students' EFL reading comprehension and their reading comprehension level.
5. To explore the relative predictive capacity of each of the factors that affect deaf students' EFL reading comprehension regarding deaf students reading comprehension level.

1.6. Significance of the study

The result of the study is hoped to be useful for both students and teachers to know the area of their failure or success in teaching and learning deaf students reading comprehension, if any lack of deaf students reading comprehension is observed. It is also believed that curriculum designers would gain some insights into the factors that affect deaf students in comprehending what they read in EFL and hence find some possible solutions for the betterment of deaf education. Moreover, although the study appears a limited one, it is hoped that it might add some meaningful contributions to the growing literature on a relatively under-researched population within the Ethiopian context. It is also believed that the study would serve as a supportive resource for further research especially, for those who want to do research in the areas of deaf students reading comprehension.

1.7. Delimitation of the study

It is believed that if the study of such a worldwide issue is conducted by covering a large population of schools and subjects from different regions, it would undoubtedly have more reliability and generalizability. However, as the study was mainly in a single deaf school,

Hossana Mekane Eyesus School for the Deaf, it would not be generalized to the entire deaf population. Instead, it is hoped to develop and extend the existing theories for further research (Hamersley, 1994). The school is the only grade 0-12 boarding school for deaf students in Ethiopia. It also possesses the largest enrollment of deaf students across the country. A second delimitation used by the research was the exclusion of students below the ninth grade level. Grades 1 to 8 are traditionally focused on the development of foundational skills in reading (Chall, 1967, 1983).

Besides, EFL reading comprehension becomes more important starting at grade nine as the medium of instruction shifts from mother tongue to English language commonly in South Nations Nationalities and People Regional State of Ethiopia (SNNPRS) context. Therefore, the researcher believes the focus of this study should be on grades nine and above where reading comprehension skills would develop and become more important. Finally, the study would focus primarily on reading comprehension in the English language because deaf students are obviously relay on their reading skill to gain knowledge.

1.8. Limitations of the Study

It would have been better and make the findings of this study become more reliable if the whole target populations had been incorporated into the study. Besides, since the school had been boarding and the participants of the study were special need students, different researchers had come to them to conduct researches and this would have made the participants bored to respond to different data gathering tools. Thus, the current study did not determine grade equivalent reading level of deaf students by testing one grade level below reading tests to each grade level to find out the equivalent grade level they fit with. Instead the study determined the reading level of deaf students by giving their grade appropriate reading test to each of the grade levels. The appropriateness of the reading test to each of the grade levels checked using readability test of Guninng Fog Index (1952).

1.9. Operational definitions of terms

To ensure clarity, the following definitions and delineations were provided to distinguish key terms central to the research.

Deaf/Hard-of-Hearing Student

A **deaf** student typically refers to a student who has severe to profound hearing loss in one or both ears, with little or no residual hearing.

A hard-of hearing designation typically refers to a student who has mild to moderate hearing loss with residual hearing. Hard-of hearing students sometimes refer to themselves as "Deaf" as a means of identifying with the Deaf cultural group, usually denoted by the capitalization of the word. Within the context of this study, unless each term is used on its own, the term deaf/hard-of-hearing (D/HH) will refer to both groups.

Foreign language: The term 'foreign language' is used to refer to a language that is not the native language of a particular community, and is not largely used as a medium of communication in government offices, media, etc. Foreign languages are typically taught as school subjects to enable students to communicate with native speakers or read materials written in the language being learned (Richards & Schmidt 2002:206). This definition fairly fits in the Ethiopian context where English is taught as a subject from the first grade. It also serves as a medium of instruction in all high schools and universities. As a result, printed books (textbooks and reference books) written in English are rather available at most high schools and universities. In fact, a reasonable variety of short stories, novels, magazines and newspapers written in this language are also fairly available commercially and in libraries.

Reading comprehension is the ability to gain meaning from what is read. It is the level of understanding of a given text, as measured by the level of accuracy on questions related to the text. (Pressley, 2000; Kirsch, 2011).

Background knowledge is the reader's pre-existing knowledge or real and imaginary worlds (Anderson et al., 1979) or refers to a reader's knowledge about the topic being read (James, 1987). It includes topic familiarity, cultural knowledge and previous experience with a field. It can also be conceptualized as the knowledge the learner has on a particular topic before reading about it or before classroom instruction on the topic.

Motivation to reading According to Guthrie and Wigfield (2000:406), reading motivation is the force that initiates someone to read. Watkins and Goffey (2004:110) underline: "…even the most

able or skillful students may not engage in reading if they lack motivation". It is also defined as "the enthusiasm, interest, or commitment for doing something (for reading EFL, in this study)" (Combs 2012:225). It is conceived as a set of complex variables, specifically which combines the effort exerted to learn a new language, the desire to achieve the goal of learning the language and the positive attitudes held towards learning the language (Gardner & Lambert 1970, as cited in Ibrahim 2009:120).

Intrinsic motivation is students' engagement in an activity or task because of taking interest in or obtaining satisfaction from it, not because it leads to some external rewards (Ryan & Deci, 2000:70). Intrinsically motivated students are those who participate in an activity because of some innate interest or desire (Koestner & Losier, 2002).

Extrinsic motivation According to Deci & Ryan (2002), there are several types of external motivation that vary dependent upon the level of self-determination that a student exhibits. At the basic level, external motivation exists when a student is compelled to engage in an activity based on either reward or outside pressure. For instance: marks/grades, recognitions. It is also defined as a motivation results from the learner's anticipation of rewards such as money, prizes, increased pay, job enhancement, meeting organizational or academic requirements and positive feedback from others (Naeghel, Keer, Vansteenkiste & Rosseel, 2012:1007). Extrinsically motivated students demand positive reinforcement from teachers and/or parents to engage in their lessons.

Scaffolding: Scaffolding, a crucial procedure that facilitates learning, relates to Social Constructivist Theory which was pioneered by Lev Vygotsky (Jumaat & Tasir, 2014:74). According to Jumaat and Tasir, Vygotsky's Social Constructivism posits that students' interactions with their teachers, peers, tutors and parents help them to learn new concepts and skills effectively. Scaffolding involves teachers in providing procedural support to students at the early stages of learning, gradually decreasing the guidance as students achieve mastery of the concept or skill being learned. Doing so lessens the difficulty posed by complex contents and tasks. This in turn enables students to focus attention on constructing lower level and higher level abilities such as recalling information, problem solving and critical thinking skills which are important in reading comprehension.

Chapter Two

Review of Related Literature

This chapter reviews the theoretical considerations regarding to the pertinent related literature, which helps the researcher to meet the intended result. To this end, the following literatures would thoroughly be discussed. In the first instance, Theories of language teaching/learning, theoretical framework of the study, the acquisition-learning distinction, the concept of English as a foreign language, the nature of reading and views of reading, concept and purpose of reading, types and stages of reading and reading strategies, would be presented. Secondly, the reading comprehension of D/HH students, concept of deaf and/or hard of hearing, deaf/hard of hearing education in Ethiopia, model of reading applied to deaf students and factors that affect deaf reading comprehension and the conceptual framework of the study would be discussed.

2.1. Theories of language teaching/learning

Reading comprehension has been described as a complex process because, at the very least, it relies on the appropriate interactions among the writers and readers, the text and the context (Weaver, 2002). Thus, reading comprehension requires writers and readers, the text and the context. Therefore, studies focusing on reading comprehension should be aligned with a theory that accounts for writers and readers, the text and the context. Historically, language teaching/learning has been influenced by four major theories, namely Behaviorist Theory, Nativist Theory, Cognitive Theory and Social Constructivist Theory. The following discussion deals with these theories and situates the study in one of them.

In Behaviorists Theory, learning is conceived as an acquisition of behavior as a result of certain environmental factors to be controlled and manipulated by the teacher. In this theoretical stance, learning is believed to occur due to repetition and automatization of behavior through stimulus-response-reinforcement series (Skinner, 1974:202-203). In this view, reading can be broken down into its components (sounds, words, phrases and sentences) which are separately practiced by the individual learner in a systematic and developmental manner (Pearson & Stephens 1994, as cited in Alexander & Fox, 2004:35). Thus, students should be trained in each component skill under careful programming and strict teacher control.

The teacher selects reading activities, sequences them carefully and controls students' behavior while the latter are expected to passively receive direction, imitate information, practice it and reflexively produce behavior in the form of a desired response which will be either approved or modified by the former (Alexander & Fox, 2004:37). Generally, from a behaviorist standpoint, reading is not a learner-focused experience, but a mechanical process of imitation, repetition and habit formation driven by factors external to the learner.

Secondly, the Nativist Theory posits that the capacity to learn language is innate. The acquirer's contribution to the language acquisition process is therefore the result of genetic programming, while sufficient input is a necessary precondition for language acquisition to occur (Krashen, 1982:20-21). In this view, learning to read is seen as an inbuilt capacity, i.e. learners are endowed with an intrinsic competence to understand written language if they are given sufficient exposure in meaningful contexts (Goodman & Goodman 1980, as cited in Alexander & Fox 2004:39). That is, learning to read is not as such a function of teaching, but a matter of information reaching the language acquisition facility. Nativism thus seems to overlook the importance of formal instruction and conscious information processing as well as the worth of text-based strategies and the role of teaching materials in developing students' reading comprehension abilities. Therefore, the Nativist Theory appears more suitable in learning English as a first or second language for these contexts offer learners with sufficient natural exposure to the target language. In other words, this theory is less suited for EFL learning contexts which lack adequate input and contexts for students to use the target language for meaningful interaction.

Thirdly, the Cognitive Theory views language learning as a mental procedure of information processing, and it focuses on understanding how these activities take place in the human mind (Wilhelm & Engle 2012:143; Mitchell & Myles 2004:95-96; McLaughlin, 1987a:133-134). This theory sees reading as a conscious process requiring schematic and text-based comprehension skills. This concerns the application of prior knowledge in text comprehension and information processing skills such as analyzing syntactic structure, identifying text cohesion and working out text structures which are thus conscious cognitive skills that involve analysis and interpretation of written information (Alexander & Fox, 2004:42-43).

The Cognitive Theory hence recognizes the useful contribution students' prior knowledge can make in facilitating reading comprehension. It also presupposes strategy-based teaching of reading comprehension (text-based information processing strategies) which has received an extensive focus in language teaching-learning literature and research (O'Malley & Chamot, 1990:19). However, this theory seems to focus on the individual reader and overlook the role of socio-cultural factors in shaping reading skills (e.g. cooperative reading). Besides, while Cognitive Theory advocates reading strategy use and training, it fails to sufficiently emphasize the need for systematic attention to affective variables such as students' attitude towards a learning task, intrinsic interest in the learning task and independent involvement in the process of learning.

Finally, the theory that has exerted a prominent influence in education for over three decades now is Constructivism. Constructivism is a learning theory which argues that learners actively construct their own understanding of the world based on their experience, thinking skills and the context in which they operate. In other words, they shape their schematic knowledge and the new information into a new personal knowledge or understanding (Pritchard & Woollard, 2010:8) under the mediation of these factors. In their article titled "The Impact of Constructivism on Education: Language, Discourse and Meaning", Jones and Brader-Araje (2002) discuss Constructivism as a theory that gives precedence to the role of the learner in the learning process. According to Darge (2001:58), Constructivist Theory views students as active participants in the construction of knowledge or understanding of meaning under proper facilitation and coaching from the teacher. In a paper presented in the proceedings of the IEE International Conference on Advanced Learning Techniques in 2001, Li captures the precepts of Constructivism:

> Constructivism is a philosophical view about knowledge, understanding, and learning. Constructivism holds that learning is a process of building up structures of experience. By contrast with the traditional view of education as involving the transmission of knowledge from teachers to students, a constructivist view believes that learning occurs through a process in which learners play active roles in constructing the set of conceptual structures that constitute their own knowledge base.

The above explanation places a considerable emphasis on the active role learners can play in the learning process. Students are viewed as active constructors of knowledge, understanding and meaning through involvement, observation, discovery, critical interpretation, reflection and interaction. Generally, as Li summarizes, the following principles underpin Constructivism:

- Knowledge is constructed, not transmitted.

- Knowledge construction is embedded in the learner's interest (related to positive attitude) and personally meaningful activities. Learners take active roles in developing their environment.

- Social interaction is an important factor in the construction of knowledge.

As the last principle implies, knowledge construction is not only an individual enterprise, but it also requires social or cooperative actions which help generate diverse array of ideas and multiple interpretations that are contested and eventually negotiated. This argument leads to the Social Constructivist version of Constructivism. The Social Constructivist view posits that the interaction between the student and others (e.g. teachers and peers) should be the focus of theoretical explanation and language instruction (Brown, 2007:304-105). Accordingly, the language classroom is not a venue where learners receive the teacher's wisdom, but a space where meaningful social interactions are practiced. That is why Brown claims that teachers, materials writers and curriculum developers should create suitable contexts for learners to be actively involved in meaningful interaction with high motivation, exercising self-regulation and control over the task. In this view, reading is seen as an activity that involves students in active extraction of meaning from a written text. The teacher plays "the essential role of a facilitator or guide with the scaffolding diminishing in proportion to the students' increasing knowledge, so that students develop self-direction and autonomy" (Alexander & Fox, 2004:48).

As explained above, Constructivism views students as active agents in the learning process: they are conceptualized as active constructors of knowledge, understanding or meaning. To play this role successfully, they should, among other things, possess threshold ability (organized in the form of reading comprehension ability and schematic knowledge), employ appropriate learning strategies, show positive attitude towards the learning task, demonstrate appropriate motivation (shaped by goal orientation and self-efficacy beliefs), have access to a variety of resources and

participate in meaningful interactions with others (e.g. teachers and peers) regarding their reading. In addition, since knowledge or understanding is slowly constructed, students should be involved in persistent practice of the learning task. In fact, Constructivism capitalizes the role of teacher scaffolding in student-centered learning. In support of this, Harries and Graham (1994:233) underline that teaching approaches with constructivist orientation embrace strategy-based instruction and teacher scaffolding. Thus, in the Constructivist Theory, students' schematic knowledge, strategic thinking, motivation, access to resources and along with sufficient teacher scaffolding are considered vital in reading instruction. These variables are the major determinants of reading comprehension in general and independent EFL in particular.

Generally, the theories described above differ in their views of the role of students in the learning process. In the behaviorists view, students do not have any control over the content, pace and style of their learning. The Behaviorist Theory is not thus adequate to account for EFL reading comprehension which requires adequate learner empowerment. Secondly, although the input-driven theory of Nativism considers readers as playing the active role of constructing meaning based on sufficient textual information, it cannot explain EFL reading comprehension since it does not seem to recognize the roles of learner factors (prior knowledge, strategic information processing), formal instruction and teaching materials. The third one, i.e. Cognitive Theory also fails to explain EFL reading comprehension fully. This is because it does not take account of higher order strategies such as planning, deliberate execution and self-assessment in learning (Cleg, 2004:293). Learner attributes like attitude and intrinsic motivation which affect the development of reading skills are not also sufficiently addressed in this theory. It is, therefore, the Constructivist Theory that offsets the drawbacks of these three theories pertaining to reading comprehension.

The Constructivist Theory incorporates the view of language as communication and is learner-focused. Since this theory recognizes the value of strategic thinking and the role of teaching materials as sources of input (contents and tasks), it encompasses the precept advanced by Cognitive and Nativist theorists respectively. This theory also fits within the notion of engaged reading (Alexander & Fox 2004:50) which emphasizes the role of learners' goals, strategic thinking, motivation and self-regulation in their EFL reading and reading of academic texts. This study is thus closely aligned to the Constructivist Theory of learning which recognizes the role of

learners' characteristics (attitude towards prior knowledge (experience), strategic thinking and learning motivation).

2.2. Theoretical framework of the study

The research on reading comprehension is theoretically diverse and difficult to synthesize into a single framework. To provide a single framework for planning, implementing and interpreting data, Kintsch's Construction Integration (CI) model would be used. The CI model is a model of reading processing that thoroughly describes how readers comprehend and is one of the most highly cited comprehension models (Deshler, Hock, & Catts, 2006). The theory identifies both cognitive and affective processes that affect reading comprehension. The theory itself will not be tested in this study, The model will be applied and extended by assessing the factors that affect deaf students' EFL reading comprehension and testing the relative importance of the factors since Kintsch does not rank them.

The fact that this study will not test Kintsch's (1988) model directly does not negate the use of the CI model as the framework for this study. The motivation for this study is to describe a variety of key factors posited in reading literature as integral to reading comprehension and it is important to that literature to identify which of these key factors are most important to deaf students reading comprehension and their perceptions towards these factors, which is why the Kintsch model will not be tested directly. Kintsch's CI model is useful as a framework for this study precisely because it is comprehensive and includes most of the variables identified in the literature. This study is primarily a statistical model designed to assess and measure factors thought to contribute to reading comprehension of deaf students.

Kintsch and van Dijk first developed their theory of text comprehension in 1978 later expanded in 1983 that describes the cognitive and linguistic processes involved in reading. The model describes three sets of operations a reader uses to process text, which are sometimes rendered simultaneously and at other times sequentially. The first operation looks at the semantic structure of text, which is organized into a coherent whole. Some elements are processed more than once, which can affect text retention as the reader may forget what was previously processed.

The second operation is when a reader condenses text meaning into its "gist" or main ideas. Lastly, readers generate new text by summarizing text into their own words or ideas. The model applies to both reading and listening comprehension as the same processes can occur during either action.

The CI model employs both bottom-up and top-down cognitive processes to comprehend text, which are needed for perception, problem solving, and comprehension. The interaction between these two processes is what fosters comprehension. The initial stages of reading activate the bottom-up processes when a reader looks at the sensory input or words on the page and decodes them. After decoding the words, a reader relies upon lexical knowledge to understand what each word means (Taylor, Mraz, Nichols, Rickelman, & Wood, 2009).

For instance, the word "bank" may convey several meanings" a place where money is kept, the ground surrounding a river or a group of something, typically in a row as in a row of elevators. In each of these instances, the reader not only reads the word but must quickly access his knowledge about the word and apply the correct meaning to the current context (Kintsch, 2013).

When reading a challenging text, one where a reader struggles to decode or define words, the reader engages in problem solving through either top-down or bottom-up processes to understand what is being read.

Top-down processes are engaged after words have been decoded, which requires activation of prior knowledge of the words themselves or the concepts they represent. Both of these processes are integral to reading comprehension and require both perception to identify words and analysis of the semantic structure of the text. For instance, in the sentence: Janet helped Laura to buy a coat; the reader looks for propositions (a bottom-up process) that might have multiple meanings (e.g., buy also means purchase). Prior knowledge, vocabulary and the reader's experience are engaged (a top-down process) to help the reader determine appropriate meaning of the word and context. Schema activation only considers the correct meaning of the word while using context allows the reader to eliminate incorrect meanings. For typical readers, this process is effortless. According to Kintsch, this process should be automatic and seamless. When it is not, students will struggle to comprehend what they have read.

For students with disabilities, reading comprehension requires ongoing problem solving during reading, which taxes working memory and can frustrate the reader.

Research has shown that many students with disabilities have inaccurate word recognition and decoding skills, which can also impact reading comprehension (Allen, 2010; Eason, Goldberg, Young, Geist, & Cutting, 2012; Lyon, Shaywitz, & Shaywitz, 15 2003). Word recognition requires the reader to look at visual stimuli and perceive what it says based on the phonemes within the word. Kintsch states word length may also impact a reader's ability to read and comprehend the text. Non-proficient readers often struggle to read single-syllable words and as multi-syllabic words are introduced the struggle increases. All these factors may singularly or in combination impact reading comprehension.

Struggling readers often become disengaged, which impedes their ability to create a situation model and therefore, inhibits comprehension. While Kintsch acknowledges that reader motivation is another aspect of reading comprehension, others have provided a more thorough understanding of the effect of student motivation on reading. Guthrie, for example, states that reading is linked to motivation; in fact, he states that reading interest is a predictor of reading comprehension (2008). Reading engagement, which is driven by a student's intrinsic motivation-to-read, has been positively linked to academic achievement.

Kintsch's CI model provides a basis to this study because it identifies key general variables needed to successfully comprehend text. These key general variables (i.e., that neurological and cognitive factors, emotional factors, environmental factors, intelligence and intellectual, factors, language factors, physical factors) would be examined in this study to identify the specific factors that hinder the reading comprehension of deaf learners and decide the hierarchical relationships among them, which has practical implications for the reading comprehension of deaf students. Under the umbrella of the theory of language teaching/learning and theoretical framework of this study, the following sub-sections discuss the acquisition-learning distinction, the nature of reading and views of reading followed by sections on reading and the conceptual framework of the study respectively.

2.3. The Acquisition-Learning distinction

A distinction is often made between language acquisition and language learning. The acquisition of a new language takes place informally outside the classroom. That is, learners have sufficient exposure to the target language and are involved in fluency activities that help them to develop communicative competence. In the acquisition process, acquirers are not much aware of grammatical rules but have a feel for correctness due implicit exposure to rules in use. On the contrary, language learning is undertaken in formal classroom contexts where students learn about the new language in accuracy-focused instructional scenarios. The distinction between second language acquisition and second language learning is elucidated in Stephen Krashen's Acquisition-Learning Hypothesis.

The Acquisition-Learning Distinction Hypothesis posits: "… adults have two distinct and independent ways of developing competence in a second language" (Krashen, 1982:10).These are acquisition and learning. Second language acquisition is similar with the way children acquire competence in their first language. First language (L1) acquisition does not involve explicit instruction, and children develop first language competence without knowing that they are learning the language. Similarly, second language (SL) acquisition is a sub-conscious and an implicit process. The acquirers are normally not conscious of the rules of the languages being learned; they do not learn the rules consciously but have a feel for correctness. Contrary to acquisition, learning refers to conscious mastery of SL rules, i.e. explicit awareness of grammar and ability to talk about them. In this form of developing SL competence, there can be a tendency of learning more about the language instead of developing communicative competence in the language.

A closer look at the acquisition-learning distinction shows that acquisition takes place in input-rich and anxiety-free situations whereas learning carried out in input-scarce classroom contexts is often influenced by affective variables such as attitude, motivation, self-confidence and anxiety. This concerns the issue of the Affective Filter Hypothesis. The affective filter is understood as a mental block that prevents input from reaching the Language Acquisition Device (LAD). Accordingly, this hypothesis posits that learners with low affective filter (positive attitude, high motivation, high self-confidence and low anxiety) generally do better in SL learning which leads

to acquisition. Conversely, high affective filter (negative attitude, low motivation, lack of self-confidence and high anxiety) results in poor SL performance which may not lead to acquisition (Krashen, 1982:31). It follows that while learning English as L1 is characterized by the existence of low affective-filter, high affective filter can be experienced in learning ESL and EFL, with the latter being more anxiety-provoking.

Learning a foreign language can pose a considerable degree of challenge on students due to lack of exposure to the language. The challenge can result in cognitive, linguistic and psychological difficulties. Lack of ability in the foreign language can thus cause poor performance which leads to high affective filter, i.e. negative attitude, low motivation, decreased self-confidence and debilitating anxiety. These in turn erode students' success in the language learning endeavor (Stevick 1976, as cited in Krashen, 1981:39). Therefore, the learning of English as a foreign language takes place in a high affective filter situation although the severity of the filter varies with specific contexts, student predispositions, types of learning task and task difficulty. In this case, one can assume that the learning of ESL differs from that of EFL. However, Harmer (2007:11) takes a more cautious view of the issue in the following excerpt:

> However, this distinction [between EFL and ESL] begins to look less satisfactory when we look at the way people use English in a global context. The use of English for international communication, especially with the Internet means that many EFL students are in effect living in a global target-language community and so might be thought as ESL students instead! Partly as a result of this we now tend to use the term ESOL (English for Speakers of Other Languages) to describe both situations. Nevertheless, the context in which the target language is learnt (what community they wish to be part of) is still of considerable relevance to the kind of English they will want and need to study, and the skills they will need to acquire.

The above argument highlights the diminishing status of the distinction between ESL and EFL. This argument can be acceptable in the sense that English continues to serve as the lingua franca of the world (Harmer, 2001:1), but it does not represent EFL learning contexts where the internet is not inadequately accessible. Whatever stance one may take about the ESL-EFL distinction, it is agreeable that English is learned as a new language in both cases. Thus, the teaching of a new

language should deal with students' behavioral, cognitive and affective constructs appropriately. That is why finding the best method of teaching a new language has been at the center of theoretical arguments. At this point, it seems necessary to look into the issue of English as a foreign language which is more relevant to the focus of the study.

2.4. English as a Foreign Language

The term 'foreign language' designates a language that is not the native language of a particular community, and is not broadly used as a medium of communication in government offices, businesses and the media. Therefore, foreign language instruction aims to equip students with basic communicative skills in the language being learned (Eugen, Provenzo & Provenzo 2009:131). A foreign language is typically taught as a school subject to enable students to communicate with speakers native to the language or read materials written in it. This phenomenon fairly fits in the Ethiopian context where English is taught as a subject from the first grade and is also the chief medium of instruction in high schools and universities, i.e. in public and non-public institutions alike.

The teaching of English as a foreign language is primarily classroom-based. In Ethiopia, a country of diverse ethnic and linguistic composition, the majority of the students come to the EFL classroom with varied first language backgrounds (Amharic, Afan Oromo, Guragigna, Tigrigna and others). However, the students' exposure to English is mainly confined to the classroom. Therefore, learning English as a foreign language poses some challenges attributable to cognitive, linguistic and psychological constraints. For example, EFL learners do not usually possess sufficient linguistic repertoire to rely on especially in speaking and writing. Additionally, most often, they struggle with difficult words, unfamiliar expressions and complex sentence structures. This complicates their reading comprehension efforts by creating an intense cognitive load requiring students to apply several problem solving strategies (Hein, 2010:121) including reading strategies. The strong cognitive load caused by linguistic difficulty can also affect students' attitude towards learning English and their motivation to learn it.

Thus, learners of English as a foreign language differ from learners of the language in other contexts in their background experience, attitude, motivation and learning strategies. Affirming this assertion, a synthesis of studies on Japanese students' EFL writing showed that these

students' writing performance differed considerably between their first language (L1) and the English language (EFL). Their writing ability in the EFL was lower than their writing performance in the L1 due to variations in their previous experiences, the writing strategies they used and the confidence they possessed in writing in the two languages (Manchon, 2009:50). The study concluded that students' low writing ability in the foreign language can affect their attitude towards writing, motivation to write and writing materials. By implication, reading comprehension among EFL students at different levels is prone to the influence of these variables. That is, EFL students' attitude towards reading, motivation to read and use of reading strategies considerably determine their involvement in reading. Therefore, studies that focus on the practice of EFL reading among a certain group of students should take account of these factors without neglecting their comprehension ability levels.

2.5. Concept of reading and purpose of reading

- **Concept of reading**

A great deal has been written about reading. Different people use the term reading in different ways. It is not easy to have a complete coverage of such a vast topic. Accordingly, different scholars defined reading differently. For instance, Venkateswaran (1997:85) defines reading as the process of decoding print or deciphering print or it is understanding, interpreting or making sense of a given text. Similarly, Nunan (1989) defines reading as the process of decoding written symbols working from smaller unit to larger one in order to arrive at meaning. On the other hand, Atkins, et al. (1996) defines "reading as a many sided very complex activity. It has been variously described as a process, mode of thinking, a kind of real experience, a type of vicarious experience, an aspect of communication and a tool of subject."

From the above definitions, one can conclude that reading is a process where the reader uses his/her background knowledge and the information given (context) in the text to make meaning. It involves process, such as previewing, predicting, guessing, confirming and judging, etc. These activities are vital to process effective reading, and develop effective reading skills. Nuttall (2005) presents skills of reading as "the ability to focus the eyes on written materials to move them from side to side following lines of print to hear and to see the difference in words that resemble another in sound and appearance to figure out the pronunciation of a new word by dividing it

into parts, to select main points and major supporting details, to adjust reading rate of different kinds of materials or to satisfy different purposes".

- **Purpose of reading**

A reader should have a purpose in his/her mind when he/she reads. Regarding this, Catherine (1982) underlines that, "Reading is an activity with a purpose." Hence, knowing the purpose for reading is always important. This helps the reader to set goals for his/ her reading, for instance, to find out something, to know something, or to get information, etc. Purpose also helps us to generate interest. Above all, it helps the reader determine how and at what speed he/she should read the material. This is to say, the purpose of the reader determine the kind of reading strategy he/she will employ. One can concentrate on specific parts of a text, i.e., on the headlines, topics, sub-topics, or on the picture of a text if one is looking for a general ideas, for locating a piece of information. On the other hand, one reads slowly and carefully when he/she wants to digest materials, when he/she wants to understand the main points and details.

To conclude, the purpose of reading determines the way the reader reads. For example, if the purpose is purely for enjoyment, then if the reader momentarily loses concentration this is unlikely to affect the outcome. In contrast, if the purpose is to learn how to do something, then it is very likely important that the details and sequences are understood and remembered.

2.6. The nature of reading

Reading is generally viewed as a means of obtaining information through the process of extracting meanings from printed or electronic texts. Therefore, reading ability is important in academics since it forms a foundation for learning at primary, secondary and tertiary levels of education. Obviously, a student's academic success is profoundly determined by his/her reading ability (Butler, et al. 2010:1). It is therefore believed that enabling learners to develop reading comprehension skills is the primary goal of reading teachers and experts. Reading is a goal-driven activity that takes place in a variety of contexts (Haworth, Turner & Whitely, 2004:66). It is usually conceived as a complex mental action of making sense of written features in order to work out meanings from written texts. This definition coincides with the cognitive perspective of reading that argues: "…comprehension was a dynamic process involving the purposive

construction of meaningful representations of text in working memory" (Harrison & Perry, 2004:89). Thus, reading involves comprehension, which is an active process of communication. That is, it is a means of sharing information between the writer and the reader through a text medium. In other words, reading comprehension is an act of parsing, creating, constructing and confirming meaning (Lanning, 2012:1). It follows that unless students are able to extract the meanings of texts, relate new information with their prior knowledge, and understand/integrate the words, phrases, paragraphs and ideas in the text, they are hardly reading (Combs, 2012:181). This fact is also captured in the work of McNamara (2007:28-29) who writes:

> Comprehension means different things to different people. Indeed, comprehension is not a unitary phenomenon but rather a family of skills and activities…. The different types of comprehension share a common core process. A general component in many definitions of comprehension is the interpretation of the information in the text, the use of prior knowledge to interpret this information and ultimately, the construction of a coherent representation or picture in the reader's mind of what the text is about…. This representation is the foundation from which the reader can retell the story, apply knowledge that has been acquired from the text, identify the theme, and so on.

It is also worth noting that reading is invariably a purposeful and developmental process, which involves two levels: low level processing and deep level processing (McNamara, 2007: xi). While low level processing signifies structural and phonemic recognition, word and sentence structure identification and associating them with the respective sounds, at a deeper level, it refers to semantic processing. Semantic processing designates interpretation which occurs when the reader construes the meaning of a written text and relates it to his/her background knowledge or experience. According to McNamara, at this level, the reader endeavors to comprehend the underlying meaning of the sentences, the paragraphs and the entire text. Thus, comprehension of this level denotes the capacity to go beyond the words, to understand the ideas and to work out the associations between ideas conveyed in the text being read. Therefore, we need to explicitly address one or the other of these levels when we discuss the subject of reading.

The notion of reading as involving two levels of information processing had been discussed widely by Mercer and Mercer (1989:334-336) far long before McNamara wrote about it. 40 © University of South Africa 2010 Mercer and Mercer classify these two basic processes as decoding and comprehension. As these authors elaborate, the decoding process involves understanding the "phoneme-grapheme relationship and translating printed words into a representation similar to oral language". Therefore, decoding skills allow the reader to articulate words precisely. On the other hand, comprehension skills help the reader to work out meanings of words in isolation from context and to construct meanings from a written text. Generally, reading is viewed as involving word recognition skills and comprehension skills. It was with this realization that Mercer and Mercer proposed the following schematic sketch of the organization of reading skills:

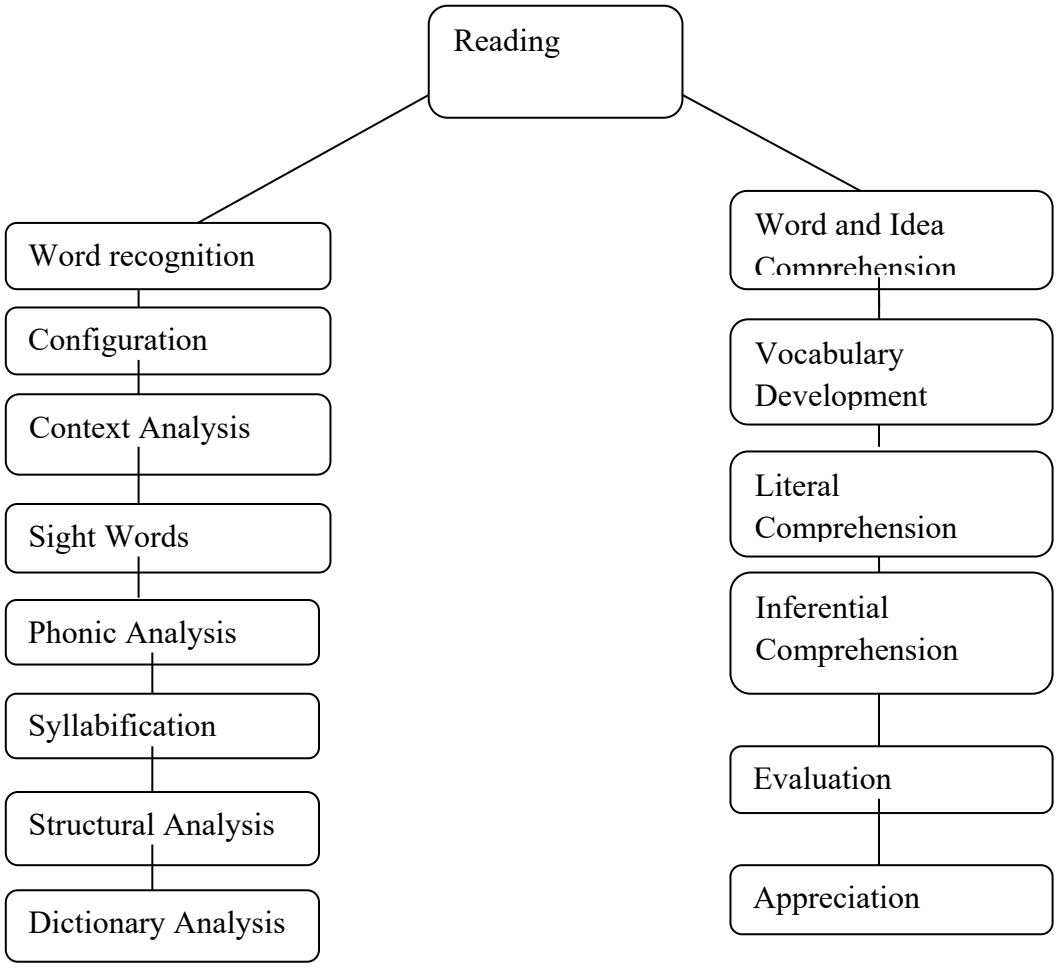


Figure 2.1: Organization of Reading Skills:

Source: Teaching Students with Learning Problems, P334 (3rd Ed.), by Mercer & Mercer, 1989

As shown in the sketch, word recognition requires configuration, context analysis, sight word identification, phonic analysis, syllabification, structural analysis and dictionary analysis. Configuration is the recognition of letter shapes, word lengths, capital letters and letter heights which aid struggling readers (Cunningham & Shagoury, 2005:5). In context analysis, the reader guesses meanings of unfamiliar terms using contextual cues. While sight words include familiar words which the reader recognizes easily, phonic analysis denotes the process of decoding words by word-sound combination depending on certain phonological rules. This is important because to be fluent in reading, children must be able to integrate their phonemic awareness skills into phonic principles (sound–symbol relationships), and practice reading to develop automatic and accurate orthographic word recognition abilities (Lyon 1999, as cited in Westby, 2007:74). In structural analysis, the reader perceives meaningful chunks (e.g. root words, prefixes, suffixes, possessives, compound words and plurals), rather than concentrating on discrete sounds, to ensure faster reading rate. On the one hand, while syllabification is the process of breaking words up into constituent parts and assigning meanings to individual components, dictionary analysis concerns the use of pronunciation keys/symbols that are provided in dictionaries or glossaries. Generally, although word recognition may not signify reading comprehension that involves deeper level discourse processing, it is an important aspect of reading that learners of English as a new language should develop at the initial stages of learning (Goldenberg & Coleman, 2010:43).

As Mercer and Mercer elaborate, reading comprehension includes vocabulary development, literal comprehension, inferential comprehension, evaluation and appreciation. Vocabulary development refers to the process of building one's word knowledge through exposure to reading materials, contact with users of the new language and practice of word-attack skills. Secondly, literal comprehension refers to the recognition and recall of information explicitly stated in a reading passage. Skimming a text to determine the gist, scanning a passage to locate specific information, recalling for important details, recognizing the sequence of events and finding answers to specific questions are instances of literal comprehension (Phipps & Gonzalez 2004:138). The third, inferential/interactive comprehension, pertains to endeavors to determine what the writer means by what he/she says (Patel & Jain, 2008:116). It involves the reader in reading between the lines and making predictions, identifying causal relationships and associating textual information with previously acquired information (Westby, 2002:77;

Gupalakrishnan, 2011:51). Inferential comprehension thus requires reasoning, relating background knowledge to what is being read and applying knowledge about text structure. Fourthly, evaluation involves the skill of making judgments on accuracy, acceptability, plausibility and validity of the author's arguments (Wallace & Wray 2011:29). Finally, appreciation relates to the reader's emotional and aesthetic reactions (e.g. excitement, fear, boredom and anger) towards the text in concern (Mackenzle, 2002:93; Glenberg, 2011:7).

Thus, detailed reading comprehension requires the reader's active involvement in guessing the meanings of unfamiliar words (vocabulary development), creating meaning from a written text (literal and inferential comprehension), evaluating the message in the text being read (evaluation) and expressing personal impressions (appreciation) about the information the writer is conveying. One logical argument that arises from this notion is that the text is not the sole determinant of reading comprehension. This is because it is the reader's ability to make an accurate account of a text that determines the ultimate success in his/her comprehension of the text (Broek et al., 2009:108). This fact is explicated in the definition of reading proposed by Snow (2002:11): "We define reading comprehension as the process of simultaneously extracting and constructing meaning through interaction and involvement with written language. We use the words extracting and constructing to emphasize both the importance and the insufficiency of the text as a determinant of reading comprehension". The literature also emphasizes that reading comprehension is a multifaceted process that is shaped by three interdependent elements (the reader, the text and the context).

2.6.1. The Reader

A reader can be defined as a person who decodes, analyzes and interprets information in a reading text with the primary aim of uncovering its meaning. The reader is the one who is responsible for comprehending a text to achieve a specific purpose. Obviously, to comprehend a text, the reader has to possess a wide array of abilities. As Snow (2002:13) elaborately discusses, these include cognitive capacities (attention, memory, critical analysis, inference, visualization), motivation (purpose for reading and reading self-efficacy), and various types of knowledge (vocabulary, domain and topic knowledge, linguistic and discourse knowledge, knowledge of specific comprehension strategies), which depend on the texts being read and the type of

activities that are selected. At this point, it should be noted that the limited linguistic and discourse ability EFL learners possess due to inadequate exposure to the English language can result in poor attitude, low motivation and thus deficient reading ability. Students in such contexts therefore require special instruction such as effective reading strategy training so that they can develop as independent readers. Combs (2012:182-183) also affirms the view that the reader plays an active role in the comprehension process. This author categorizes the constructs the reader brings to the reading process into three: oral language and vocabulary development, background knowledge and reading motivation.

The argument forwarded in favor of oral language and vocabulary development is that children who acquire ample expressive skills and vocabulary knowledge early are likely to face less reading comprehension challenges in their later lives. Thus, in EFL contexts like Ethiopia, English language teachers should make meaningful efforts to enable their students to develop expressive skills and vocabulary learning strategies as early as possible. The implication of this is that EFL teaching requires availing resources such as audio visual materials for communication and implementing deep oral literacy activities depicting rich reading cultures. Doing so helps students to become independent EFL readers late in their schooling and in their real lives, too. The second reader-related variable, background knowledge, is also important in shaping reading comprehension. Proficient readers integrate their prior knowledge with the contents of what they are reading. This helps them to engage with the text meaningfully, make reasoned inferences, create images and formulate questions which they get answered as they read along. Conversely, struggling readers use limited background knowledge and achieve little in their reading comprehension. The third reader construct is reading motivation which subsumes reading goal and reading self-efficiency. It is believed that successful readers possess positive attitude, read with a clear purpose and have positive self-efficacy beliefs which enable them to persevere with challenging texts. Such readers also employ a variety of successful strategies selectively and control their reading progress, i.e. they exercise self-regulation in their reading. Good reading comprehension ability, positive reading attitude, appropriate reading motivation and effective reading strategy use along with sufficient access to relevant texts help students to become successful reader.

Overall, the reader is integral to the reading comprehension process. Firstly, the purpose for which one reads significantly impacts on reading comprehension. Secondly, the knowledge, skills and strategies the reader brings to the reading situation such as knowledge of the language, knowledge of the subject matter in the reading text, text processing skills, ability of negotiating meaning, skills of making judgments and capability to use reading comprehension strategies selectively are also important determinants of reading comprehension. Affective constructs like the reader's attitude and motivation also exert a considerable influence on reading comprehension. Obviously, readers differ in their background, preference, motivation and self-regulation (Blachowicz & Ogle, 2008:6). These need addressing in classroom instruction. It is when these cognitive and psychological prerequisites come into play constructively that successful reading comprehension occurs. Having said this about the reader, let us now turn to another component of reading comprehension, the text.

2.6.2. The Text

A text is a written material (e.g. a manual, a short story, a newspaper, a bulletin, a magazine, a guidebook and a research article available in print or electronically) from which the reader decodes, analyzes and interprets information with the intention of understanding it. Although researchers with a cognitive psychological bias tend to place less emphasis on texts, linguists and applied linguists give them a central position in reading comprehension instruction (Wallace 2003:12). As Wallace points out, the linguistic and sociolinguistic features of texts can baffle or aid especially second language readers, "… who have fewer resources to predict their way through texts". Accordingly, the text (print materials, electronic resources, multimedia documents) is an important agent in reading since its features that include exact wording, meaning-carrying units, discourse markers and nonlinguistic (e.g. figures) items have an important influence on the comprehension process (Guppy & Hughes, 1999:14). It is based on such aspects of the text that readers employ different strategies and construct meaning. In fact, texts can be easy or difficult to comprehend depending on the factors inherent in them such as subject matter, vocabulary load, complexity of linguistic structure, discourse style and type of genre on the one hand and the background of the reader on the other (Donoghue, 2009:172). Therefore, reading instruction should take account of these factors so that obstacles associated with them can be smothered over appropriately.

Since learners have different preferences of texts, reading instruction should strive to cater for their needs and interests in this regard. In other words, students need exposure to a range of reading materials, topics and activities. It follows that a school library or resource center that provides teachers and students with a wide variety of reference books, readers, periodicals and electronic resources is one of the requirements in effective reading comprehension instruction. It is believed that access to diverse materials such as books, print references, newspapers, magazines and electronic materials is vitally important to address the needs and interests of emerging readers, i.e. students (Kaufmann, 2003:118). In relation to the importance of various texts in contexts where teachers scaffold reading, Blachowicz and Ogle, (2008:47) write:

> For instructional guided reading…classrooms should have small-group and large group sets of books, novels, or commercial anthologies or readers; sets of short stories; and multiple copies of magazines. These sets permit teachers to provide guided reading instruction using a variety of topical materials, and to introduce students to a variety of text structures for school and personal reading. A book or magazine in hand is much more motivating than a fuzzy photocopy, and it also deals appropriately with copyright issues in the school.

Harmer (2001:2001) also takes a similar stance regarding the need for the provision of rich resources. He argues that it is not enough to order students to engage in a lot of reading taking for granted that they can obtain the prescribed readings. He further contends that teachers need to provide their students with appropriate materials, tasks and facilities such as permanent or portable libraries. As Harmer believes, this helps learners to engage in both intensive and extensive readings which enable them to get the most out of their reading. Harmer's explanation thus emphasizes the need for exposing students to a wide selection of texts that help them to engage in persistent reading comprehension activities in accordance with their purpose, interest and preferred time. This in turn initiates them to practice persistent self-initiated reading which ultimately results in lifelong independent reading habits.

In sum, since reading comprehension is the result of the interplay among different factors, the interaction between the reader and the text is indispensable: for interpretation and meaning construction to occur, there should be a text that engages the reader.

At this point, it is important to stress that readers have distinct preferences of reading materials and topics. This obviously has an important implication for the teaching of reading comprehension. That is, schools and English teachers need to strive to provide their students with a selection of texts (variety in text type, text difficulty and reading tasks) so that the latter read in line with their needs and interests. It is also true that reader-text interaction operates within a particular context since learning in general and learning reading comprehension in particular are context-specific. A brief description of the context of reading comprehension is presented below.

2.6.3. The Reading Context

Reading context can be broadly defined as the social milieu in which a reader operates constrained by the attitude towards reading and the reading culture of the society to which he/she belongs. Traditionally, reading comprehension has been conceived as a cognitive activity undertaken individually. This view presupposes a solitary author endeavoring to create meaning to be unpacked by a solitary reader (Baynham, 1995:4). However, reading comprehension is determined not only by the writer and the reader, but the context in which the text is created and interpreted also plays a role in the process. This is because demographic, social, political and other contextual variables exert a considerable impact on the process and outcome of learning (Nieto 2010). Affirming this claim, Lehtonen (2000:116) writes: "Contexts play an essential role in what has traditionally been described as 'understanding' of text". Thus, reading comprehension is learned within a context that extends beyond the conventional classroom, i.e. students come to the reading act or reading comprehension instruction with varying socio-cultural backgrounds.

The discussion in the preceding paragraph emphasizes that reading comprehension can be taken as a socio-cultural activity not only because it can be developed through social interactions, but because it is also influenced by how a specific cultural group or discourse community interprets the world and communicates information (Klaas & Trudell, 2011:25; Gregory 2008:27-70). Differences in socio-cultural variables such as income, race, ethnicity, native language or neighborhood are believed to substantially influence students' purpose for reading, the way they view reading, their view of themselves as readers and their preference of texts. Snow (2002:17) clearly explains this fact in the following excerpt:

> The effects of contextual factors, including economic resources, class membership, ethnicity, neighborhood, and school culture, can be seen in oral language practices, in students' self-concepts, in the types of literacy activities in which individuals engage, in instructional history, and, of course, in the likelihood of successful outcomes. The classroom-learning environment (such as organizational grouping, inclusion of technology, or availability of materials) is an important aspect of the context that can affect the development of comprehension abilities.

The principal argument forwarded in favor of the view that reading comprehension is constrained by contextual factors is that schooling, literacy instruction and reading are understood differently by different social groups (Alexander, 2000:5). In other words, due to the existence of shared ideas, values, habits, customs, world views and cultural beliefs that distinguish one country, region or community from others, there are context-specific conceptualizations of reading and readers (Wallace, 2003:8). As Wallace expounds, vernacular literacy practices (e.g. Quran reading), which go beyond the realms of the classroom, can have bearings on reading comprehension instruction due to the interrelationships between home and school. Wallace goes on to elaborate that reading comprehension is a social process in the sense: 1) authors and readers perform their roles as members of a particular community and, 2) reading occurs in a social context-both immediate (the classroom or the school setting) and wider (e.g. a particular community or country). This strengthens the view that reading comprehension is a shared process with an intricate relationship between text writers, text receivers (the teacher as a mediator and students as readers) and the text itself. Each of these elements is constrained by socio-cultural variables as explicated in the following description extracted from Franz (2008:329):

> It (reading) is a complex social activity that involves multiple levels of social meaning, including the reader's identity, the classroom context, the author's identity, and the role of the text in any given social group. The culturally situated nature of reading recognizes that both readers and authors are members of specific social communities that shape their perceptions, attitudes, knowledge, and beliefs. Adolescents need teacher, peer, and whole-class relationships that support their development as sophisticated readers and thinkers.

It is held that effective adolescent reading comprehension instruction should provide them with opportunities to interact with others. The implication of this assertion for classroom instruction is that mature readers need to be engaged in meaningful discussions in which their enquiries and contributions are valued. However, the social dimension of reading is not confined to classroom discussions since it can involve writing and other methods of conveying information that can be performed out of the classroom setting. Thus, readers need to be "engaged in interaction that deepens their understanding of texts and helps them to recognize the social, political, and historical content and purposes within texts" (Franz, 329:329). This evidently requires a more engaged critical and reflective reading approach which, along with reader persistence and perseverance, can lead to independent reading. Therefore, the view of reading as a process of meaning extraction constrained by the social context fits in the Constructivist Theory of learning which informs this study.

In the Ethiopian context where English is not employed abundantly for social, political, business and other intercourses, EFL reading is initiated and practiced in the classroom primarily for academic purposes. Therefore, teachers who seek to create life-long independent EFL readers in this situation should consistently scaffold out-of-class engaged reading by fostering positive attitude, appropriate motivation and effective use of reading strategies. In this way, they can play a meaningful role in nurturing a generation of readers in the country where there is a growing concern about the decline in the reading culture of the nation. In fact, students should also work for the development of their own reading comprehension abilities by constantly engaging in self-initiated reading outside the classroom. Therefore, it can be argued that the growth of independent EFL reading among students in Ethiopian schools cannot be realized without the concerted efforts of English language teachers and students themselves.

The conception of reading comprehension as an activity determined by contextual variables has some pedagogical bearings for reading comprehension teachers to draw on. Firstly, teachers must find out and respond to students' reading goals upon which socio-cultural variables have an influence. Secondly, it is important that teachers identify and build on students' background knowledge, reading experiences and expectations which are context driven. Thirdly, it is crucial that teachers expose students to a wide range of texts, topics and activities to address their reading needs, interests and preferences.

In a more student-centered classroom, teachers can allow students to bring their own selections of reading materials that meet contextual requirements. In addition, it is useful to engage students in cooperative construction of meaning in carefully organized social groupings (pairs or groups) so that they can slowly move away from the direct control of the teacher. It is also beneficial for students if they engage in persistent critical and reflective reading which can ultimately enable them to take charge of their reading. In these ways, teachers can teach reading comprehension based on a more holistic orientation that embraces cognitive, psychological, linguistic and social perspectives.

2.7. Types of reading

Different scholars divided and perceive kinds of reading differently, though most of them share some ideas in common. Many scholars categorized reading into two broad types depending on the purpose of the text for reading, the length of the text, the objective the text prepared for, the classroom procedures. They are intensive and extensive readings. Regarding this, Nuttall (1996), states that "extensive reading and intensive reading are not contrasting types of reading rather they are complementary and both are important and necessary in the teaching and learning reading comprehension".

2.7.1. Intensive reading

Intensive reading refers to the reading of short text. It entails the reading made at classroom level under the guidance of the teacher (Nuttall, 1982). She adds:“the main aim of intensive reading is to arrive at a profound and detailed understanding of the text, not only of what it means but also of the meaning is produced. It tends to develop the strategies of the learners”. In this respect, Nuttall (1982) claims that: “The intensive reading lesson is intended primarily to train students in reading strategies”.

2.7.2. Extensive reading

Extensive reading refers to reading that learners often do away from the classroom for instance: reading novels, magazines, and newspaper articles….etc. Concerning this Thompson(2001) explains that extensive reading is, in most instances, usually a kind of reading that takes place

out of the classroom, and is done for the sake of pleasure, to obtain information, or to satisfy interest.

Through extensive reading, the reader enriches his/her background knowledge, and expands his/her vocabulary; he/she also recognizes the spelling forms. Generally speaking, extensive reading increases students confidence in their reading ability, increases their reading in fluency specifically, decrease dependence word by word comprehension, and it increases reading speed.

2.8. Reading activities or phases

Hedge (2000), states that it is now standard practice in the design of reading tasks to use a three-phase procedure involving pre-, while and post- reading stages. The intention is to ensure that reading is 'taught' in the sense of helping readers develop increasing ability to tackle texts. The three reading stages will be treated as follow:

2.8.1. The pre- reading activities

In pre-reading stage, students will be motivated and they bring their background knowledge in the reading of a given topic. Regarding this stage, Baker and Westru's (2000), as cited in Gezahegn (2013:18) states that pre- reading activities should be short and focused, i.e. five minutes is usually long enough. Medjahdi (2015:15) states that the pre-reading stage may arouse the students' interest and help to pre-teach some vocabulary as well as it sets the mood for reading.

2.8.2. The while- reading activity

Richards (1990), underlines that the while reading stage "as an integration of top-down processes that utilize background knowledge and schema as well as bottom up processes that are primarily text or data driven." The while- reading phase or simply the reading stage attempts to develop the student's comprehension of the writer purpose, develop the student's linguistic knowledge, make the student recognize the meaning of unfamiliar words, develop conscious reading and teach the student how to skim and scan. Moreover, it makes students read silently in order to answer questions already set.

2.8.3. The post- reading activity

Baker and Westru's (2000), explains that there are certain activities to be done after students have read a text. These can include: retelling the story in small groups or as a class, acting out the story using their own words, rewriting the story in their own words, preferably in pairs or in groups to encourage discussion and discussing the story in pairs or small groups, giving their opinions of what they have read or suggesting different endings.

2.9. Reading strategies

Different scholars defined reading strategies differently. For example, Oxford (1990) defined reading strategies a*s* actions that make the learning task easier, enjoyable, effective and self-directed. The term strategy refers to learning techniques that help learners solve the problems they face whenever they read. According to Anderson (1991), reading strategies mean cognitive steps which readers can take into account in order to acquire, store and retrieve data. Likewise, reading strategies are also defined as "specific actions, behaviors, steps or techniques such as seeking out conversation partners or giving oneself encouragement to tackle a difficult language task used by students to enhance their own leaning" (Scarcella and Oxford, 1992, pp.63). In other words, they are mental, a communicative procedure learners use in order to learn and use a language (Nunan, 1991). When the learner consciously chooses strategies that fit his or her learning style..., these strategies become a useful toolkit for active, conscious and purposeful self-regulation of learning.

Although educators list and categorize strategies in different ways, most lists contain similar elements. The common element in all work is the focus on what ‘good readers’ do as they identify words and comprehend text. Efficient readers are active as they read, simultaneously using a range of processes to identify unknown words and comprehend text. These may include clarifying the goal of reading the text, skimming the text for the central ideas, making predictions, making connections, searching for specific information, making inferences, seeking clarification when meaning is lost.

Many researchers have similarities in categorizing reading strategies. For example, Brantmeier (2002) and Brown (1990) introduced skimming, scanning and guessing as effective strategies in reading. On the other hand, (Brantmeier, 2002; Nuttall, 2000; Phan, 2006) summarize that reading strategies involve skimming, scanning, guessing, recognizing word families, reading for

meaning, predicting, activating general knowledge, making inferences, following references and separating main ideas from supporting ideas.

1. Scanning and Skimming

- **Scanning**

Nuttall (2005) states that scanning involves glancing through a text either to search for a specific piece of information (e.g. a name, a date) or to get an initial impression of whether the text is suitable for a given purpose. For example, a reader might scan a contents page or index to find the page number of specific topic; a reader may scan a dictionary or telephone book in search of a particular word or name, or a reader may scan as they re-read a text to substantiate a particular response.

- **Skimming**

Skimming involves glancing quickly through a material to gain a general impression or overview of the content. Wallace (1993:293) characterizes skimming as skill, which consists of quickly running one's eyes across a whole text to get a general idea or gist of the text. In other words, skimming is a rapid reading technique when a reader wishes to get a general idea about the contents of a piece of writing.

A common example of skimming is when we are reading a newspaper or a magazine. When a reader wants to skim a text, he/she does not need to read word-by-word and line- by- line. Sufficient information can be obtained from heading and sub-headings, by reading the first sentence of each paragraph, and by focusing attention on 'content words'.

2. Word attack skills

Readers employ a number of strategies when reading and their success at understanding the context depends to a large extent on their expertise in these strategies.

As stated by Nuttall (2005) one of the major problems that foreign language learners face while reading a certain text is vocabulary problems. But efficient readers approximately use "word-attack skills" to solve problems related to vocabulary.

Nuttall (2005:69) mainly categorized word attack skills in to three helpful strategies. These include the interpretation of structural clues (both syntactical and morphological), inferences from context, and the use of a dictionary.

- **Structural clues**

According to Nuttall (2005), "Structural information is one of the most useful word attack skills which helps a reader to assign the meaning of a new word". It can be categorized into the grammatical function, and the morphology of the word. Regarding the grammatical function, by looking at the position of a word used in a sentence, a reader can establish at least its grammatical category or its part of speech (whether it is a noun, a verb, an adjective, an adverb, etc.). The kind of meaning we look for is thus the first step on the way to understanding. Similarly, the morphology or internal structure of a word may offer valuable clues to its meaning. Affixation and compounding are two of its typical examples. Affixation is the use of prefixes and suffixes. Words, such as ***un***happy, ***dis***agree, ***dis***regard, teach***er***, examin***ation***, **dis***agree***ment**, ***un***willing***ness***, involve the application of ***affixes***(*prefixes* and *suffixes*). Nuttall (2005) underlines that - An analytical approach to morphology pays big dividends in enabling students to work out the meanings of new words."(pp.70).

- **Inferring from context**

English is a rich language in words and there will be a possibility that readers encounter new words and expressions when they are reading a text. When this is a case, inferring can play a great role in understanding the meanings of unfamiliar words and phrases.

They shouldn't be advised to stop reading directly, and look up the meaning of every unfamiliar word in a dictionary. Instead, they should use the context in which the unfamiliar words are used to obtain their meaning. Regarding this Nuttall states that, "In order to arrive a more satisfactory interpretation of unfamiliar words, the reader needs to make use of the context" (2005, pp. 72). For this reason, Proficient readers are said to use the context in which the unfamiliar words are used to obtain their meanings.

Concerning this, Harmer (2001) states that possessing the skill of inferring, or deducing the meanings of unfamiliar words from context, is a mark of skilled readers.

Similarly, Nuttall (2005) asserts that successful readers are able to deduce the meanings of unfamiliar words from their context. “Students who can infer meaning from context have a powerful aid to comprehension and will ultimately read more quickly” Nuttall (2005, pp.72).

- **The use of a dictionary**

A dictionary is an alternative tool used by a reader to get the meaning of a word. When a reader cannot interpret words which they meet in a text, he/she may turn to a dictionary. This is perfectly natural and in some circumstances advisable. It would be unhelpful to look up every new word in a dictionary. It is a waste of time. This is because a great many words can be learnt from reading. Through extensive reading, the reader can enrich his/her background knowledge and expands his/her vocabulary. In light of this, Nuttall (2005:62) states that an extensive reading is the single most way of improving vocabulary. However, according to Nuttall (2005), students who keep looking up new words read much less effectively. Every time you break off to consult a dictionary, you slow down your reading and interrupt your thinking, which should be following the development of thought in the text. Harmer (2001) suggested that the reader should not stop at every single point or analyze each idea alone, but rather he/she should make a general comprehension of the text and to extract the meaning by considering the content.

3. Prediction

Prediction is an important cognitive skill which experienced readers practice. It enhances readers’ imaginative power. Wallace (1993:52) argues that experienced readers are capable of using wide range of textual cues in predicting what comes next. Likewise, Nuttall (2005) points out that prediction are important because it activates schemata: that is, it calls into mind any experience and associated knowledge that we already have about the topic of the text. We make use of the schemata to interpret the text. If students bring their background knowledge and experience to the text, it makes the reading text easy and smooth for them to make the meaning.

4. Careful reading

This reading strategy requires from the reader to obtain detailed information from the entire text. Moreover, the reader is expected to read slowly, and to reread the text for the sake of connecting and comparing information with his prior knowledge.

In light of this, Urquihart and Weir (1998) argue that this type of reading takes the meaning of reading to learn i.e., the learner reads for the sake of learning also its reading speed is rather slower than skimming and scanning since the reader attempts to obtain detailed information.

2.10. Factors affecting students' reading comprehension

Reading Problem is a comprehensive survey of teaching strategies, formal and informal assessment, theory, and research. The reader will find information both from the field of reading and from allied fields, such as special education, bilingual education, medical science, and policy studies. Together, these areas provide a coherent framework for helping students with reading problems. Luckner and Hadley (2008) conducted an extensive meta-analysis of research conducted between 1963 and 2005 on reading comprehension of deaf/hh children between the ages of 3 and 21 years. A total of 52 studies were identified and included studies that were descriptive, single case, experimental, and quasi-experimental in nature. The results indicated that neurological and cognitive factors(lack of background knowledge), emotional factors(motivation to reading), environmental factors(the home environment, the school environment, the social environment, the cultural environment), , intelligence and intellectual factors (cultural bias in the measurement of intelligence, using intelligence tests to determine the existence of a reading disability), language factors(oral and written language, receptive and expressive language, systems of oral language, speech problems and language disorders), English language learners), physical factors (hearing impairment, visual impairment, gender differences and other physical problems) as factors associated with reading problems.

1. Neurological and cognitive strategy factors

When we consider neurological or cognitive factors, we take into account the way in which an individual's brain operates during the process of comprehending what they read. The term cognitive strategy refers to the mental activities that an individual uses in learning, such as visual processing, auditory processing, memory abilities, or language related abilities. It is also a deliberate manipulation one's mental processing to resolve various reading difficulties. Cognitive strategies are aimed at the straightforward goal of making cognitive process. Oxford (1990) states that a cognitive strategy is one type of learning strategies that learners use in order

to learn more successfully, such as making prediction, summarizing, translating, and guessing meaning from context, repetition and using imagery for memorization.

All of these strategies involve deliberate manipulation of language to improve learning. Similarly, Grabe (1991) states that a cognitive strategy is knowledge about cognition and it involves certain reading behaviors, such as recognizing the more important information in a text, adjusting reading rate, using context to sort out a misunderstood segment, skimming portions of the text, previewing headings, pictures and summaries, using search strategies for finding specific information, formulating questions about the information, using a dictionary, using word formation, using affixes to guess word meaning, taking notes, underlining and summarizing information.

Cognitive strategies deficit can interfere with the way that students understand information presented to them. For some students with a reading disability, cognitive strategies deficit can play a major role. The brain research shows strong evidence of differences in brain function between poor readers and normal readers (Shaywitz, Morris & Shaywitz, 2008).

The role of cognitive awareness has been studied to determine its applicability and benefit in the completion of numerous cognitive tasks, including reading comprehension (Alexander & Jetton, 2000; Pressley, 2000; Pressley & Afflerbach, 1995). In the study of reading comprehension, cognitive awareness generally refers to the readers' awareness of, control over and evaluation of their own comprehension processes (Schirmer & McGough, 2005).

Research on cognitive awareness among deaf/hh students suggests that deaf/hh students do not readily engage in the use of comprehension strategies to facilitate comprehension during reading (Walker, Munro, & Rickards, 1998). Deaf students are less aware of the reading process and tend to be passive rather than active readers. Deaf students most often use strategies only when prompted to do so (Schirmer, 2003; Schirmer, Bailey & Schirmer Lockman, 2004). Some studies have identified the role of meta-cognition in reading comprehension by deaf students. Yamashita (1992) examined several variables including prior knowledge and meta-cognitive awareness of 61 deaf students. Prior knowledge and meta-cognitive awareness were significantly related to reading comprehension. Regression models of the variables in the study indicated that meta-cognitive awareness had the strongest effect for all measures of reading comprehension.

Lack of appropriate background knowledge is a factor that limits text understanding. Regarding to this, Nuttall (2005:6) elaborates, the reader and the writer should share about the world and the way it works. The kinds of assumption we make about the world depend on what we have experienced and how our minds have organized the knowledge we have got from our experience.

Bartlett (1932), as cited in Mc Donough and Shaw (1993:107), explained how the knowledge that we have about the world is organized into interrelated patterns based on our knowledge and experience. Similarly, Brown and Yule (1983:109) provide a comprehensive account of how this background knowledge can guide and influence the comprehension process. Efficient reader, therefore, calls for an appropriate utilization of the background knowledge readers have about the world. Knowledge of the world and how it works is important in order to understand a given text.

The writer and the reader do share common experiences about the world they live in. The reader processes the text based on one‘s prior knowledge of the world. If a reader possesses sufficient and similar schemata with the writer of a text, he/she will be able to interpret the text successfully and meaningfully. Regarding this, Fletcher (1994) states that, The more background knowledge a reader has that connects with the text being read, the more likely the reader will be able to make sense of what is being read. In contrast, if he/she lacks or has weak schemata about the text to be read, then he cannot penetrate thought and message of the writer and will remain in state of darkness and spend much time probing of the meaning of the text. It is, hence, possible to conclude that lack of background knowledge about the world can hinder text understanding.

2. Emotional factors

Failing readers, particularly if they have a long history of failure, often have accompanying emotional problems that impede reading. Emotional problems tend to increase as a youngster moves up through the elementary years and enters adolescence. Sometimes it is hard to determine whether a reading problem is the result of an underlying emotional disorder or if emotional problems have developed because of a reading disability. Often, a constructive approach is to help the student experience success in reading and this success in turn becomes a kind of therapy.

A therapeutic approach to the teaching of reading can build confidence, establish self-esteem, and capture the pupil's interest. However, students with severe emotional disorders may need psychotherapy or counseling (Silver, 2006).

In their study Guthrie, Coddington, and Wigfield (2009) affirmed the importance of motivation in reading by expressing that, while reading achievement is important, a major aim for student reading should be to foster life-long readers. While educators often confirm the importance of motivation, it has often been overlooked in "research, theory, practice, and teacher education" (p. 320).

According to Guthrie and Wigfield (2000), reading motivation is the enormous quantity of motivation that learners should consider their positive or negative idea about reading. For example, learners who read for pleasure and engaging approaches to support their understanding are extremely motivated readers. Learners of this kind usually consider reading to be a significant element in their daily activities, receive challenges in the reading process and are likely to be effective readers. Furthermore, reading motivation is one's own purpose, idea, and interest related to the title, action, and the consequences of the reading.

Hairul, Ahmadi, and Pourhosein (2012) said that reading motivation has a great impact on reading comprehension. The researchers continued that reading motivation impacts all aspects of motivation and reading comprehension strategies in different conditions. They also emphasized that students' motivation absolutely affects their reading; it means that students with stronger reading motivation can be expected to read more in wider range. Thought there are different types of motivation, two of the major types used in this study are explained in the following section.

A. Intrinsic Motivation

Arnold (2000) stated that intrinsic motivation is learning itself that has its own reward. Students voluntarily try to learn what is very important for them. They have internal desire to learn and they do not have the need for external results. There are not any negative effects in having intrinsic motivation. Intrinsic motivation pushes the learners to learn without rewards because the need is innate and depends on their own desire.

According to Light bown and Spada(1999), teachers do not have great effects on their learners' intrinsic motivation because they are from various backgrounds and the sole way to motivate learners is to make the class a supportive environment.

Dörnyei (1990), Pourhosein Gilakjani, Leong, and Saburi (2012), and Alizadeh (2016) defined intrinsic motivation as the motivation to engage in an activity that is enjoyable to do. Bomia et al. (1997 as cited in Pourhosein Gilakjani and Ahmadi, 2011) defined intrinsic motivation as the abilities that stem from within an individual which cause him/herto act or learn. Examples are one's self-concept, self-respect, self-confidence, and emotional needs. Self-motivation leads the learners to go beyond the requirements of an educational course because they are looking for learning about the subject not just performing a restricted number of requirements.

Inner desire and internal needs and wants are defined as intrinsic motivation. For example, students would study more if they have an individual attention in what they are learning about and are permitted to select their own activities (Ryan & Deci, 2000). Hairul, Ahmadi, and Pourhose in (2012) explained that intrinsic motivation refers to behavior that is driven by internal rewards. This is different from extrinsic motivation which includes engaging in a behavior in order to receive external rewards or avoid punishments.

B. Extrinsic Motivation

According to Arnold (2000), extrinsic motivation is a desire to obtain a reward and stop punishment. This kind of motivation emphasizes external need to urge students to participate in learning activities like assignment, grade, or performing something that pleases teachers. Harmer (1991) said that both integrative and instrumental motivation are classified under the branch of extrinsic motivation.

Extrinsic motivation has a negative effect on the learners because they do not learn with their strong intention but they learn because they are pushed by the concern in the rewards or the punishment. When learners learn something due to the rewards, they will have the high motivation to enter their classes and will also easily get the aim that are set for them. When these rewards are taken away and there isn't any punishment for the learners, they will not show any eagerness to take part in their classes and will not be certainly able to learn more (Harmer, 1991).

According to Bomia et al. (1997 as cited in Pourhosein Gilakjani and Ahmadi, 2011), extrinsic motivation is the outside sources that affect a person to act or learn. Examples are rewards, positive or negative results, and comfort or discomfort. When this external source provides enough conditions, learning can easily occur. When the external input stops or does not provide adequate worth to the learner, then the eagerness to learn will stop. Dörnyei (1990),Pourhosein Gilakjani, Leong, and Saburi (2012) and Alizadeh (2016) defined extrinsic motivation as the actions that are carried out to obtain some instrumental objectives such as getting a reward or preventing a punishment.

According to Deci and Ryan (1985), extrinsic motivation is defined as an individual reward which will get as a result of any instrumental activities. Extrinsic motivation refers to the motivation that comes from outside rewards such as money or grades. The motivation comes from the pleasure one gets from the task itself or from the sense of satisfaction in completing or even working on a task.

Hairul, Ahmadi, and Pourhosein (2012) said that extrinsic motivation refers to performing an activity simply for the pleasure of the action itself rather than its instrumental value. For instance, a learner who does his/her assignment only because he/she fears parental sanctions for not doing it is extrinsically motivated because he/she is doing the work in order to get the separable results of avoiding sanctions. Similarly, a learner who does the work as he/she individually believes it is valuable for her chosen career is also extrinsically motivated because he/she too is doing it for its instrumental value.

Archer (2012:170) states that teaching a foreign language is challenging task due to the variety of constraints that English as a foreign language (EFL) teachers face daily. For instance, they have to look for ways to motivate their students to learn it in meaningful and attractive ways and they have to explore appropriate methods to teach it. These are demanding tasks for EFL teachers whose main goal is to achieve effective learning for their students. Due to this fact, EFL teachers need to be selective and analytical to choose suitable methodology which helps them to implement in their actual classroom.

3 Environmental factors

Environmental factors refer to the home, the school, the social and cultural environments where the learners live in. Archer (2012) states that the culture of the country where students have grown and lived, is another challenge that may affect students reading habit and attitudes. Anderson (2008:4), as cited in Archer (2012), underlines that "in many places of the world, reading is not integral part of people's live". As the case in Ethiopia where English is taught as a foreign language, students may lack a foreign culture when they are involved in reading those texts. Hence, students' reading habit and attitudes towards their reading practices might have been hampered.

Therefore, concerned teachers should help their students by creating and adapting suitable, relevant and familiar reading texts which relate to students' cultural knowledge. In connection to this, Harmer (2008)(as cited in Archer, 2012: 173) states that, "Good reading texts can introduce interesting topics, stimulate discussion, excite imaginative responses and provide the springboard for well-rounded fascinating lessons".

4. Language factors

1. Students' learning background

Anderson (1999) argues that students' learning background, including their L1 reading skills and knowledge level affect their reading performance. According to Nuttall (2005: 58) some students do not read efficiently even in their L1. This hinders the development of efficient reading in the foreign language, for there is a strong transfer of reading habit from one language to another.

2. Inadequate vocabulary

Readers with inadequate vocabulary read slowly and with poor understanding. In connection to this, to John (2005:2) Students who lack adequate vocabulary have difficulty of getting meaning from what they read, so they read less because they find reading difficult. Anderson (1999) also reports that readers with inadequate vocabulary read slowly without enjoyment. This, in turn, degrades understanding. In the contrary, students with well-developed vocabularies read more and improve their reading skills and at the same time they learn more words. "Good vocabulary knowledge will ascertain reading development which will lead to increased reading

comprehension" (Hansen, 2016, pp.19). Thus, vocabulary knowledge is crucial to reading comprehension and determines how well students will be able to comprehend the text they read.

However, if a student does not know the meanings of a sufficient proportion of words in the text, comprehension may not be attained. Vocabulary experts agree that adequate reading comprehension depends on a person already knowing between 90 and 95 percent of the words in the text (Hirsch, 2003). Knowing at least 90 percent of the words enables the reader to get the main idea from the reading and guess correctly what many of the unfamiliar words mean.

Similarly, Grabe and Steller (2001) say that in order to read comfortably, skilled readers need to have a receptive mastery of 95% or more of the words in a text. They recommend that focusing 2000 to 3000 most common words in a language as an essential foundation for word recognition automatically, and then (focusing) on vocabulary that is appropriate to specific topics and field of study.

2.11. Ethiopian early grade reading assessment

An early grade reading assessment (EGRA) in Ethiopia was performed in May and June 2010, in eight regions. The EGRA was collaboration among the Ministry of Education (MOE), RTI International, members of the Education and Training Quality Assurance Agency (ETQAA), the Improving Quality in Primary Education Program (IQPEP), several core processes, and other stakeholders, and was a study of the reading skills in Ethiopia in a variety of areas. Due to the efforts of the MOE, and the generous funding of United States Agency for International Development (USAID)/Washington and USAID/Ethiopia, this EGRA study is the largest of almost 50 performed.

The assessment was developed for 6 languages in Ethiopia, such that Grade 2 and Grade 3 students were assessed in Tigrinya, Afan Oromo, Amharic, Somali, Sidaamu Afoo, and Hararigna. The assessments included a variety of subtasks, including letter (or fidel) sound fluency, phonemic awareness, word naming fluency, unfamiliar word naming fluency, oral reading fluency, reading comprehension, and listening comprehension. The assessments were leveled according to the MOE's Minimum Learning Competencies. The sampling included 338 schools and 13,079 students assessed by RTI and the IQPEP with the MOE.

The purpose was to investigate the children's reading skills in the context of the General Education Quality Improvement Program (GEQIP) and the rapidly changing primary school environment in Ethiopia. In addition to student literacy assessments, a family background questionnaire was administered to students, and head teacher and teacher questionnaires at the school level. School level and teacher level data were matched with student achievement data to determine how student background, the classroom environment, and community factors were correlated with student outcomes.

Data collection took place between May 10, 2010, and June 16, 2010. Data collectors were trained intensively in the basics of reading assessment, specific to each language by RTI, IQPEP and renowned language experts from many universities, particularly Addis Ababa University. Assessors included experts from Colleges of Teacher Education (CTE), Woreda Education Offices (WEO), and Regional Education Bureau (REB) staff, as well as private data collectors, inter-rater reliability scores were higher than .94. Supervised by experts from the MOE and REBs, a team of 109 assessors was deployed in the eight regions.

Language of Instruction Findings Ethiopia's primary school language policy is often noted for being the most progressive policy in Sub-Saharan Africa with respect to mother tongue instruction. The EGRA study asked children whether they speak the same language at home as they are taught in at school. The result indicated that, in each region, the percentage of children learning in their mother tongue (home language) ranges from 71.5% (Benishangul-Gumuz) to 97.8% (Sidama zone, SNNPR), with the majority of regions surveyed having more than 85% overlap between language of instruction and mother tongue. This is certainly one of the highest uses of local languages in primary school anywhere in the continent, and likely contributes to literacy acquisition in Ethiopia, though the scores remain lower than expected. However, note that in each region a significant proportion of children learn in languages they do not speak at home; e.g., 28.5% in Benishangul-Gumuz and 12.2% in Oromiya.

This dataset provides opportunity for complex analysis of interesting relationships between language, student background, and student reading outcomes. The findings presented in this executive summary are in the areas of oral reading fluency and reading comprehension, as defined below:

1. Connected text oral reading fluency: ability to read a passage, about 60 words long. It is timed to 1 minute. The passages were targeted at the early Grade 2 level in vocabulary and complexity.

2. Comprehension in connected text: ability to answer several comprehension questions based on the passage read. Each assessment had 5 or 6 questions, and the scores presented are percentage-correct.

The result indicated the percentage of children in each region in Grade 2 reading at different benchmark levels. Accordingly, a significant percentage of children in Grade 2 read zero words correctly. In Sidama the percentage of nonreaders was 69.2%, and in Oromiya it was 41.2%. Only Harari (17.9%) and Addis Ababa (10.1%) have percentages of zero scores less than 20%, with the largest regions (SNNP, Oromiya, Tigray, and Amhara) all having Grade 2 zero scores above 25%.

Even in Grade 3, significant percentages of children remained nonreaders. For Somali (21.4%), Amhara (17.0%), Sidama (54.0%), and Oromiya (20.6), it is striking that after 3 years of school, such large proportions of children remained completely illiterate in their mother tongue. Interestingly, it appears that large decreases in the percentage of nonreaders occur between Grade 2 and 3 for Oromiya, Benishangul-Gumuz, and Tigray. However, for those children who were just beginning to learn to read at the end of Grade 3, it was likely too little and too late. These children are likely candidates for dropout or repetition, and they certainly run the risk of not being prepared for the end-of-primary examinations. The purple bars that relate to children reading at the expected rate indicate very low scores. In each of the 8 regions, at least 80% of children and in the case of Sidama, 100%—were not reading at the expected oral reading fluency rate.

The problem of very low achievement exists for oral reading fluency as well as reading comprehension. It is clear that a large percentage of children did not comprehend what they were reading, though the questions were quite simple. In Sidama (72.8%), Tigray (56.9%) and Benishangul-Gumuz (54.0%), more than half of the region's children in Grade 2, did not understand a story at all. Even in the urban regions (Harari and Addis Ababa), one quarter or more of children could not comprehend basic questions. There were some improvements between Grade 2 and 3, with less than one third of Grade 3 children scoring zero in all regions

(except Sidama at 61.8%). On the other hand, the stories and associated questions were developed such that Grade 2 children should have been able to answer 4 or 5 of the 5 comprehension questions correctly.

These findings show that even though the purpose of mother tongue instruction is to ensure that children understand what they read, the children's inability to decode the words means they are unable to understand the text, although they are likely to have the vocabulary to understand it. This is confirmed after analysis of the listening comprehension task, which shows that the average child can listen to and comprehend spoken stories quite well. The gap between the reading comprehension and listening comprehension scores is consistently large, and shows that the problems identified by this EGRA are specific to teaching reading and not due to language issues in the children.

- **Gender Gaps**

In EGRA administrations across Sub-Saharan Africa, RTI has found that in most instances, girls significantly outperform boys on early reading tasks. We investigated the relationship between gender and urban city to determine whether there are systematic gender gaps in reading achievement as measured by the EGRA. The 2007 National Learning Assessment (NLA) literacy results found that boys outperformed girls in rural areas, but there were no differences in urban areas. The EGRA study found almost the same result. Across regions, there was a statistically significant difference between boys' and girls' achievement in all reading tasks (save listening comprehension) that favored boys. On the other hand, in urban areas, girls outperformed boys, though in some cases it was not statistically significant. This relationship mirrors the NLA results. There seems to be a problem in the education system for rural girls, since girls can read in urban areas, and in other Sub-Saharan African countries girl (both urban and rural) outperform boys.

Reading materials and wealth impact on oral reading fluency revealed the result in three student characteristics basses. First, the impact of being a wealthy student on student achievement across the five languages revealed the largest impact of 4.4 words per minute (wpm) in Amhara and the smallest of 0 words in Somali. Second, the impact of having the language textbook on student achievement: Having the book increased oral reading fluency by between 4.3 wpm (Oromiya)

and 13.8 (Somali) in these large regions. The impact of having a book was larger than being wealthy and that was true for all regions presented here. Finally, the effect of having extra reading materials at home, which was significantly larger than being wealthy (except in Tigray) and larger in some cases than having the school reading textbook. For instance, having other books is related with 10.3 words more per minute in Oromiya, much more than the 3.0 words related to being wealthy. Research in Sub-Saharan Africa decades ago confirmed the importance of having a textbook and the findings from this EGRA study mirror what was known several decades ago: Having access to materials to read, both inside and outside of school, encourages achievement in literacy over and above the wealth of individual families.

This leads to the question of what percentage of children in Ethiopia have access to the valuable reading materials that make such a large difference on student achievement. The result indicated the percentages of children with the school textbook and other reading materials at home. There is a wide range of responses as to whether the child had the textbook across the regions: 94.5% of Tigray's children had the book, but only 42.8% of Somali children and 59.3% of Benishangul-Gumuz children had it.

Given the relationship between having the book and student achievement, there is a clear policy implication: Getting the school textbook into the hands of each child is critical. In Sidama (65.1%) and Amhara (70.4%), the percentages of children with textbooks are low. Ensuring that children have other materials to read has also shown to be a critical variable, but this figure shows how few children have any other reading materials at home or at school. In urban regions (Harari and Addis Ababa), 40% or more of the children had other reading materials, but in the rest of the regions, the percentages were much lower. In Oromiya, Somali, Benishangul-Gumuz, and Sidama, only 1 in 6 children had any other reading materials. Given that having even a tiny amount of extra material to practice reading was so strongly correlated with policy outcomes, it appears that providing books to children or encouraging families and communities to have books at home is an important next step to improve the quality of literacy outcomes in Ethiopia.

- **Factors predicting reading outcomes**

The very large dataset analyzed in this paper provides a significant opportunity to look at the factors related to student reading achievement (as measured by oral reading fluency scores).

Controlling for region, family background, school level and individual factors are predictive of student outcomes. At the school and system level, it is clear that children learn a significant amount in Grade 3 (9.4 wpm) and if children learn in the same language they speak at home, it has a positive impact on student achievement (3.2 wpm), though a full 11.8% of the children in these regions do not learn in the same language that they speak at home.

Critically, as mentioned above, having a textbook provided by the school was associated with 13.2 more words per minute. At the family level, many wealth factors were related to higher achievement (having a radio; having a nice house, a phone, electricity, and family helping with homework). Schools cannot affect these factors. However, whether a child had other books in the home (8.3 wpm), the father helped with homework (4.9 wpm), or if the entire family was available to assist with schoolwork (14.7 wpm) can make a big difference. At the student level, repetition (-9.6 wpm) was a significant problem, as was being underage for the grade (-4.2 wpm). These factors are measured at the student level, but actually are system level factors that can be improved by ensuring adherence to the entry policies of the REBs and the MOE. In short, there are many factors related to student achievement that the school and the system can improve upon.

The findings suggest that while children attend school for two or three years, a significant percentage is illiterate. These findings buttress the work of the Ministry of Education and the National Organization of Examinations in the NLA and show that there is strong evidence that reading achievement is low in all regions sampled, with the urban regions Harari and Addis Ababa modestly outperforming the other regions. The language usage findings show strong adherence to the language of instruction policy, and that most children in the regions sampled learn in the language they speak at home, which increases their ability to understand and to read. Most critically, these findings show that reading achievement is very low in Ethiopia. When asked to read a simple passage at a Grade 2 level, many regions had more than 30% of Grade 2 and 20% of Grade 3 unable to do so successfully, with children in Sidama zone and Oromiya region particularly struggling. When it comes to reading comprehension, scores are extremely low, with more than 50% of the children in most regions unable to answer a single simple comprehension question. The exceptions are for urban areas and urban regions, and in some schools in Grade 3, where children are only starting to understand what they read. This appears to be too little, too late, and the current status of reading skills suggests that significant

interventions in the quality of reading instruction and the provision of reading materials are necessary.

Recommendations from this study had been shared with the policy workshop to be held soon and to include stakeholders from across the education sector and mirror the ideas that will be presented to the MOE in September, 2010. The recommendations include the following:

• **Focus resources on reading instruction**. Very few teachers reported any in-service training in reading methods and pedagogical techniques. This should be supported by specific training for teachers on how to appropriately and successfully teach children this content. This will support their ability to help children learn the fundamentals necessary for successful reading, including vocabulary, phonemic awareness, fluency, and decoding. Note that teaching teachers how to teach reading must be language specific. Amharic and Afan Oromo are very different languages structurally, for example, and precision is needed to focus training on how best to improve primary education.

• **Start early, in Grades 1 and 2.** The findings show that teachers' views of when pupils could read and understand what they read are important for pupil outcomes. They also show that much learning of the fidel and alphabet is occurring primarily in Grade 3. This suggests that in some Ethiopian classrooms teachers wait too long to teach students how to read and expect too little from their young learners, and this has implications for what children can gain from early primary school. It is recommended, therefore, that Grade 1 and 2 pedagogy focus most heavily on early reading acquisition and outcomes.

• **Encourage reading in the community.** Our findings showed that few classrooms were stocked with reading books, and very few children had many reading materials at their homes. Thus children have limited exposure to the joys of reading engaging and interesting materials appropriate for their developmental stages. A two-pronged effort should be made to increase the amount of reading material in classrooms and encourage families to make reading a part of their daily family activity. This could be accomplished by awareness raising efforts at the regional and woreda level.

• **Review in-service teacher professional development.** The findings from this study clearly indicate that, in many schools, little reading instruction happened, though mother tongue class is a significant part of the day. By this we mean that there was far less interaction between teachers and students around letters, words, sentences, and stories than there should be. This need not be the case, and experiments in Kenya, Liberia, and South Africa show that teachers can be very receptive to focused inservice professional development supporting skill acquisition in early literacy interventions. It is recommended that the in-service teacher professional development programs target the building blocks of reading and where possible, provide targeted lesson plans for teachers.

• **Set literacy benchmarks.** The complex language environment in Ethiopia means that policy makers should think carefully about outcomes they expect children to achieve by the end of Grade 2. This can be added to the reading portion of the Minimum Learning Competencies and will prepare Ethiopia for the indicative frameworks designed by the Fast Track Initiative. The findings suggest that without benchmarks, and work to achieve those benchmarks, children may never reach reading fluency.

• **Improve the quality of reading instruction.** There are some critical areas necessary for immediate intervention.

- **Use letter sounds and the fidel as building blocks for reading.** There is a strong correlation with a child's scores on letter sounds with their reading fluency and comprehension scores in languages that use the alphabet. This means that these building blocks for fluency and comprehension are important skills for children to master in Grade 1.

- **Teaching decoding is critical.** Many of the classroom observations in this sample revealed teaching situations where teachers pointed to words and encouraged the children to call out the word house. However, when faced with very similar words, those same children did very poorly because the pedagogy encourages the children to memorize particular words, and spends much less time training them in how to decode and "solve" new words.

- **Teach formal comprehension strategies.** The children in this sample had very low comprehension levels. This is partially because the children were likely to have limited oral vocabulary skills, in particular, but also because the children did not have much formal training in comprehension strategies. These can be systematically taught. Note, however, that without the ability to read fluently, comprehension is nearly impossible.

• **Expand literacy interventions.** Ethiopia has been very receptive to changes that can impact the quality of reading instruction; yet the evidence suggests that more effort is needed. Combined with scripted lesson plans, material book development and provision, and ongoing teacher professional development, it is clear that improvements to the quality of reading outcomes can be had in Ethiopia. We suggest that the following elements be included in the literacy interventions that are attempted in Ethiopia.

- **Development of targeted lesson plans.** Teachers should be provided with specific instructions as to how to teach early reading acquisition, since most pre-service programs do not provide the level of detail and precision necessary to do it properly.

- **Provision of ongoing support for teachers.** In order to support the behavioral changes necessary to help teachers to teach significantly better, they need ongoing support using a combination of new instructional methods and opportunities to discuss how their experiments with the new methods are working. A coaching model might provide effective support.

- **Development and usage of significant reading materials.** Leveled materials need to be developed to support the gradate instruction in Grade 1 and Grade 2. These materials need to be read easily by burgeoning learners and incorporated into lessons.

2.12. Reading comprehension in deaf and hard of hearing education

2.12.1. The concept of deaf and/or hard of hearing (d/hh)

The focus of this study was to investigate problems encountered by deaf students in comprehending what they read in EFL. It is necessary therefore those concepts such as deafness, hard of hearing, models of reading applied to d/hh students and the reading comprehension of

d/hh students should be explained so as to provide the background for understanding the current concern/knowledge under study and bringing the reader as up to date as possible. The selected literature is from similar or related studies and theories to the subject from both current information and back in history; with the intention of providing a comprehensive understanding of the subject save the credibility to my study, as Gall, Gall & Borg (2009) point out that, "Unless your study explicitly builds on the work of other researchers in your area of inquiry, it is unlikely to contribute to research knowledge". Marshall (as cited in Gall et al. 2009) emphasized that, "For research to make a substantial contribution, it must be based on adequate knowledge of the field and the study's introduction must reflect this knowledge".

- **Deaf** - the study presents deaf learners to be understood as those with increased difficulty to perceive auditory information (Gallaudet Research Institute, 2007).

- **Hard of hearing** - the study presents hard of hearing to be understood associated with partial difficulty to perceive auditory information (Gallaudet Research Institute, 2007).

This study took interest in investigating problems encountered by d/hh students in comprehending what they reading EFL particularly, the current reading comprehension level of D/HH and cognitive strategies related factors and emotional factors responsible for the problems would be attempted to deeply understand. Moreover, the interplay among these and other variables would be examined to gain insight into the factors that affect the reading comprehension of d/hh populations. For purposes of shaping a thorough understanding of this study, evidences were secured from related studies and other relevant documentation regarding the D/HH reading comprehension and factors that affect the reading comprehension of d/hh students.

2.12.2 Models of reading applied to deaf/hh populations

Several models of reading offer a deeper understanding of the process of reading as well as the critical factors implicated in the process that affects one's ability to comprehend text. Although no models have been specifically developed for deaf/hh readers, several models for hearing readers can facilitate a deeper understanding of the reading processes of deaf/hh readers.

Traditional reading models include bottom-up processing and top-down processing. Modern reading models are interactive, involving elements of both bottom-up and top down processing.

- **Bottom-up processing**

Proponents of the bottom- up processing model hypothesize that deriving meaning from text is a process that progresses from learning parts of the language (letters, words, sentences). Also referred to as the Simple View of Reading, the process of reading occurs through decoding and linguistic comprehension (Gough, 1972; Gough & Tunmer, 1986). The reader must progress systematically and sequentially by first decoding individual words, then sounding out words to arrive at comprehension of text. Additional elements of the model were proposed by LaBerge and Samuels (1974) who suggested the concept of automaticity whereby readers' comprehension of text is facilitated by the development of an automatic response to decoding words. Accordingly, teachers who advocate the bottom-up view usually teach sub-skills in isolation, i.e. they introduce alphabets and equivalent sounds, carry on to whole-word pronunciation and deal with ways of connecting meaningful chunks to comprehend a text.

For readers who do have difficulty with decoding, there is a disruption in comprehension as effort is placed on decoding and comprehension of a word is lost in the process. Therefore, both elements are critical for success in reading comprehension.

The bottom-up (text-based) view of reading has an important place in reading comprehension. It is mainly used in early reading because pupils have "an early understanding of one-to-one correspondence as well as an excellent memory and sensitivity for words…" (Gregory 2008:161). It has been established through research that phonological processing skills bear causal relationships with the acquisition of reading skills (Das 2009:158). Thus, students who encounter difficulties in phonological processing will face challenges in comprehending sentences and larger texts (Riley 2006:68). Bottom-up reading is also applicable to mature reading since it is by understanding and linking the meanings of phonemes and words on a page or screen that readers can make sense of larger texts. Therefore, the bottom-up view of reading soundly explains the decoding part of reading comprehension. However, the bottom-up approach fails to fully explain the reading process (Nunan 1989:65). For example, it does not pay a systematic attention to the role of the reader in the reading process.

While decoding visual information is a necessary aspect of reading, it is too mechanical to be sufficient to account for all that takes place during reading comprehension. On the one hand, comprehension is a selective process, and on the other, readers use resources in their cognitive repertoire to work out meanings from a written text. Supporting this assertion, Hall, Larson and Marsh (2009:102) write: "…reading is meaning seeking, selective and constructive. Inference and prediction are central. Readers use the least amount of available text information necessary in relation to their existing linguistic and conceptual schemata to get to meaning". Therefore, there should be a complementary approach that explains the role the reader's background knowledge and experience play in the reading process. This is the top-down view of reading which is turned to below.

- **Top-down processing**

Top-down models incorporate elements of the reader that are generally excluded in bottom-up models (Smith, 1994; Goodman 1970). Theorists who adhere to top-down models propose that the reader's prior knowledge interacts with the text to facilitate comprehension. When reading, the reader's prior knowledge informs assumptions the reader makes regarding the meaning of the text being read. The focus is thus on what the reader brings to the text that determines how well he or she comprehends. Based on the tenets of the model, development of appropriate assumptions is dependent on relevant previous experience with the topic.

Accounting for the top-down view of reading, Wholey (2000:xiii) writes the following tips:

> Top-down processes are those that the reader applies to understand globally. Readers use their background of the reading topic and make predictions about what they expect to find out from reading. Readers confirm their predictions and begin to build a mental framework of the information in the reading selection. Awareness of rhetorical patterns, such as chronological ordering, cause and effect, and other discourse features, aids in the comprehension of information from reading.

Along with the view that reading comprehension requires more than recognizing the print symbols on a page emerged a theoretical underpinning called 'schema theory' which provides explanations of the way background knowledge shapes reading comprehension.

This theory postulates that the reader's prior knowledge and experience play a key role in facilitating comprehension. Schema theory accounts for how readers combine incoming information from the text with existing cognitive constructs of conditions, situations, events or phenomena (Widdowson, 1983:34, as cited in Wallace 2003:22; Harrison & Perry 2004:65; Brickman, Rhodes & Bushman 2007:732). The following excerpt taken from Nunan (1989:68) captures the essence of schema theory:

> Like the frame theory [a theory which posits that human memory consists of sets of stereotypical situations or frames which guide comprehension by providing a framework for making sense of new experiences], schema theory suggests that the knowledge we carry around in our head is organized into interrelated patterns. These are constructed from our previous experience of the experiential world and guide us as we make sense of new experiences. They also enable us to make predictions about what we might expect to experience in a given context. Given the fact that discourse comprehension is a process of utilizing linguistic cues and background knowledge to construct meaning, these schemata are extremely important, particularly to second and foreign language learners.

Thus, the top-down view of reading, along with its theoretical underpinning i.e. schema theory, has important implications for the teaching of reading comprehension. The exponents of this view believe that, instead of teaching students to read by verbalizing each word, teachers should train them to read the whole text. This enables students to utilize context clues to guess the meanings of unfamiliar words, to give attention to the main message of the entire passage and to count on their background knowledge to decipher the meanings of unfamiliar words and understand new concepts in the whole text (Lehtonen, 2000:121). Therefore, the top-down view allows for more student involvement in the reading process than the bottom-up approach does. However, this view cannot be considered a panacea for all the quests concerning reading comprehension. As a result, it had to face certain criticisms.

A severe criticism was leveled at the top-down view for its neglect of the need to focus on individual letters and words which constitute the visual information on the page. It is argued that even skilled readers attend to individual letters and words in the pursuit of making sense of

written texts. It is with this understanding that Hall, Larson and Marsh (2009:203) note that research in the 1980s proved that skilled readers closely attend to letters and words in their reading. These authors go on to argue that it is the less skilled readers who depend more profoundly on contextual clues to support their reading. The strongest argument these authors forward is that fluent readers concentrate on individual words as they read, looking closely at the letters in words when needs arise. Hall, Larson and Marsh also firmly hold that a good reader processes nearly "every letter in every word, very rapidly and very accurately". Nevertheless, the top-down view of reading misses this fact, and explains the nature of reading comprehension only partially.

The model has also been criticized as being more relevant to explaining how fluent, skilled readers comprehend text (Eskey, 1988; Weber 1984). In relation to deaf/hh students, it is generally believed that, for the majority of deaf/hh students, top-down processing is too difficult given the deficits they have in critical elements necessary for reading. Kelly (1995) conducted a study to determine if average readers could be differentiated from skilled deaf readers by their employment of top-down processing in reading. Both groups utilized top-down processing skills, indicating that they do use their world knowledge and prior knowledge to engage with text for greater comprehension. Skilled readers, however, utilized prior knowledge more efficiently to have a deeper understanding of the text. Skilled readers, more so than average readers, were proficient in bottom-up processing skills. Although top-down processing may be necessary for comprehension, competence in reading is facilitated by bottom-up processing skills (Kelly, 1995). Employing both top-down and bottom-up processing could lead to greater reading comprehension.

- **Interactive models**

Interactive models take into account that processes emphasized in both top-down and bottom-up processing can occur simultaneously to facilitate comprehension. Both forms of processing can be utilized by the reader for comprehension as needed (Eskey, 1988; Grabe, 1988). Prior knowledge, the text, and strategies to facilitate comprehension are all among crucial elements involved in the reading process Stanovich's model supported the findings of a study with deaf college-aged students.

Albertini and Mayer (2011) examined ten deaf college-age students' deviations from the text using miscue analysis (i.e., examination of the types of errors made during reading) and comprehension questions. Students experiencing difficulty with word recognition relied on contextual information or additional strategies to arrive at their responses to comprehension questions. However, the responses were more often than not inaccurate, with mixed results in comprehension scores. The Stanovitch model accounts for the employment of both low-level and high level-skills that are necessary for reading comprehension.

The model also gives credence to the necessity for competency in low-level skill areas for high level skills to be useful in reading comprehension. With more studies examining and demonstrating that deaf/hh populations engage in the utilization of both low and high-level skills, the use of interactive models such as this may provide greater insight into the areas of difficulties to provide targeted interventions. Many variables have been identified as contributing to the current levels of reading comprehension in deaf/hh populations worldwide. Although the population is diverse in terms of demographical profile, the majority of deaf/hh students have demonstrated poor development of the necessary skills required for grade-appropriate reading.

2.12.3 Reading comprehension of d/hh students

Over the years, the reading achievement of deaf/hh students has been explored by many researchers, both within as well as outside of the field of deaf education. These studies have been instrumental in the examination of the development and presentation of established variables associated with reading comprehension within deaf/hh populations. Some of the variables that have been investigated include: Phonological awareness, word recognition, Syntactic knowledge, Sign-language comprehension and Vocabulary.

The interplay among these and other variables have been examined by researchers to gain insight into the reading comprehension skills of deaf/hh populations. In general, the research has documented that the majority of deaf/hh populations have not developed these skills as would be deemed necessary for the attainment of grade appropriate reading comprehension skills. Recommendations have been forthcoming from many of the studies conducted, highlighting one or several areas that need to be focused on for improving reading comprehension skills.

Reading comprehension and prior knowledge

Research supports that prior knowledge about a topic improves both comprehension and memory. Prior knowledge, has been defined as domain or content knowledge that has been attributed to increased reading comprehension and memory about what has been read (Priebe, Keenan, & Miller, 2012). In fact, the effects of prior knowledge are so significant, researchers advocate adding prior knowledge measures to comprehension test batteries. The aim of one reading program is to increase students' core knowledge because it is believed to be strongly correlated to reading comprehension (Hirsch, 2006).

Priebe et al. indicated that there has been scant research on whether prior domain knowledge impacts word recognition. Prior knowledge may increase reading comprehension because a person's understanding of the topic may aid in word identification. Priebe et al. examined reading comprehension of poor readers with prior knowledge and poor readers without prior knowledge. The sample consisted of 60 fourth grade students (males = 27, females = 33) with a mean age of 9.7 years of age. Students were either suspected of having a reading disability (poor reader) or part of the control group. Thirty students were in the prior-knowledge group (15 poor readers, 15 controls) and thirty were in the no prior-knowledge group also with 15 poor readers and 15 controls. The results indicated that controls (good readers) were able to remember more idea units from the text than poor readers, but there was no main effect for prior knowledge. Poor readers were able to recall more information when they had prior knowledge compared to poor readers without prior knowledge. There was no statistically significant effect for the controls with or without prior knowledge.

The results suggested that prior knowledge does aid comprehension for students with poor word recognition. One way that prior knowledge helps poor readers comprehend is that it takes the reader less effort to read the text when ideas are known to the reader. The poor readers with prior knowledge in this study had greater comprehension scores compared to poor readers without prior knowledge. One explanation for this is that poor readers with prior knowledge were more fluent readers, which, in turn, affected comprehension indicating that, with less cognitive demand to decode words, more cognitive resources are available for comprehension. There were several limitations to this study.

First, the sample of students was not only small (n = 15 for each of the four groups), but the students were all of a similar age (mean age of 9.7). These two facts inhibit generalizing the findings to older students, which is the focus of the proposed study. Since the focus of the proposed study is d/hh secondary students, similar results may not be realized. Though the participants may be dissimilar to the proposed study, there is similarity that makes the Priebe et al. study valuable. Firstly, the relationship between prior knowledge and reading comprehension is of interest in the proposed study. Secondly, Priebe et al. (2012) posited that students with prior knowledge were better comprehenders and decoders when compared to students with low prior knowledge and poor decoding skills. While not the main focus in the proposed study, this phenomenon can also be explored. Comprehension is influenced by the reader's general knowledge and experience (both life and domain-specific).

A reader's interaction with the text is one aspect that allows them to understand what they have read. In a related study, Elbro and Iverson (2013) investigated how efficient students were in activating prior knowledge so that they could make inferences about the text, which aided in overall text comprehension.

Other studies also indicated that prior knowledge can enhance passage recall. Chiesi, Spillich, and Voss (1979) had adults rated as high or low in baseball knowledge recall a play-by-play account of a baseball game. They found that the recall of subjects rated as high in baseball knowledge were more coherent and that they preserved information important to the goals of the game in their recall, while the recall of subjects rated as low in baseball knowledge were more fragmented. In the Chiesi et al. study, high-knowledge subjects tended to recall information such as base hits, steals, and strikeouts more than low-knowledge subjects did, while low knowledge subjects tended to recall more incidental information, such as the size of the crowd, than high-knowledge subjects did.

Reading comprehension and motivation to read

Studies established that reading motivation is a multi-faceted issue. For example, Komiyama (2013) found that adult English for Academic Purpose (EAP) students' (in the USA) reading motivation had intrinsic and extrinsic dimensions. Similarly, a study conducted by Kim and Choi (2014) identified that Korean high school students' ESL motivation was affected by several

factors suggesting the multidimensionality of reading motivation. However, based on the findings of several studies (e.g. Gottfried 1990; Wigfield & Guthrie, 1997; Guthrie, Wigfield, & Von Secker 2000; Vansteenkiste, Simons, Lens, Sheldon & Deci, 2004; Guthrie et al., 2007), Gambrell (2011:175) reports that intrinsic motivation can result in better reading achievement than extrinsic motivation. Intrinsically motivated students engage in reading for the satisfaction they acquire from it, not for temporary external rewards. Thus, they can become life-long independent readers for the desire to read which emerges from within is likely to develop into an enduring habit.

Sanford, 2015 also explored the relative importance affective and cognitive variables motivation-to-read for the reading comprehension of secondary SWD. These variables represent the major constructs of Kintsch's Construction Integration Model of reading and have been identified in reading comprehension research as the factors integral to reading comprehension. Participants were 158 SWD in grades 9 to 12 attending two large urban northern California high schools. Multiple regression analyses were conducted with the affective and cognitive variables both individually and jointly and of the motivation-to-read factors, extrinsic motivation had a statistically significant negative relationship with reading comprehension indicating that internally motivated students had higher reading comprehension ability. Intrinsic motivation was also a significant contributor to reading comprehension when the affective factors were regressed onto reading comprehension.

Reading comprehension and vocabulary

In the mainstream study of reading comprehension, the vocabulary knowledge of deaf/hh students has been explored as one of the critical variables. The nature of these studies range from basic word identification and receptive vocabulary to more in-depth measures of the student's depth of knowledge as it pertains to word meanings. Wauters, Telling, van Bon, and Mak (2008), examined how words are learned, the mode of acquisition affect reading comprehension. Word meaning can be learned through perceptual (seeing, touching, etc.) or linguistic information (e.g., verbal or written explanation). Wauters et al. demonstrated that, for both hearing and deaf children, comprehension scores were lower on linguistic items than perceptual items. Wauters, van Bon, Telling, and van Leeuwe (2006) previously examined how the mode of acquisition

affects reading comprehension skill across grade levels on a standardized reading comprehension test. By examining the words used in text, the researchers found that the linguistically acquired words increased over grade levels while perceptually acquired words decreased. They concluded that focus must be placed on the knowledge of word meanings in the instruction of deaf/hh students.

Reading comprehension and reading strategies

Luckner and Hadley (2008) conducted an extensive meta-analysis of research conducted between 1963 and 2005 on reading comprehension of deaf/hh children between the ages of 3 and 21 years. A total of 52 studies were identified and included studies that were descriptive, single case, experimental, and quasi-experimental in nature.

The results indicated the need for focus on development of grammar, meta-cognitive instruction, and activation of background knowledge and use of appropriate resources.

On the other hand, Marschark et al. (2009) cautioned against a uni-dimensional approach to a complex issue. They believed that the difficulties experienced by deaf/hh students may be a much more intricate problem than is commonly assumed, not one that can be solved by simply focusing on independent variables associated with reading. Marschark et al. conducted an experiment with deaf/hh and hearing college students, in which several measures of learning were administered following the presentation of material from science texts in print or ASL for deaf students and print or verbally for hearing students. The deaf/hh students, regardless of the method by which the information was presented, learned less than their hearing counterparts. General language comprehension challenges and not only text related comprehension difficulties may be the root of the difficulties encountered by deaf/hh students.

The research on variables that influence reading comprehension is extensive. Studies have examined comparisons between deaf/hh students and their hearing counterparts, skilled and less skilled deaf/hh readers, as well as through more qualitative means such as case studies. Reading comprehension is a complex process and requires a multidimensional approach to comprehending and solving the issues faced by deaf/hh populations. Because there are a considerable number of identified variables, for greater understanding of the issues within

specific deaf/hh populations, at the very least it is essential to examine a combination of these variables.

Students who are deaf or hard of hearing often struggle to develop or improve crucial literacy skills. One of the most difficult skills for them to master is reading comprehension. According to Van Staden (2013), “The reading skills of many deaf children lag several years behind those of hearing children, and there is a need for identifying reading difficulties and implementing effective reading support strategies in this population”.

The population of students who are deaf or hard of hearing typically struggle with acquiring crucial literacy skills and/or obtaining reading abilities past the elementary level. Reading comprehension is an ongoing concern for students who are deaf or hard of hearing. Sullivan and Oakhill (2015) mention that “there has been relatively little progress in improving narrative comprehension in DHH readers despite decades of research, proving a need for further research into this topic.

The lack of literacy skills in students who are deaf or hard of hearing leads to their struggle in the secondary grades as well as throughout their college careers or in the post high school job market, unlike their hearing peers. Hoffman and Wang (2010) note that:

> Research in to the academic achievement of students who are deaf or hard of hearing often finds that the performance of many children in this population falls significantly below that of their typical hearing peers on many measures and across many domains.

In order for these students to stay on grade level and graduate with the skills necessary to either be a successful college student or find a decent job after high school, teachers of the deaf need to be made aware of any methods or strategies they can use to successfully support the development of reading comprehension skills in their students. Unfortunately, one of the major challenging tasks of educators of deaf and hard of hearing students is to enhance the reading comprehension performance of their students (Nikolaraizi, Vekiri, & Easterbrooks, 2013). Part of this challenge is that students who are deaf or hard of hearing often fail to grasp that the point of reading is to understand what they are reading, not just read the words (Benedict, Rivera, & Antia, 2015).

Research studies on reading comprehension have revealed that reading is a complex cognitive activity that is crucial for adequate functioning and for obtaining information in current society and requires an integration of memory and meaning construction (Alfassi, 2004). Students need to know how to learn from reading in order to be able to enter the present literate society and have a successful communication. Reading has been defined as an active process in which readers shift between sources of information, elaborate meaning and strategies, monitor their comprehension, and use the social context to reflect their response (Walker, 2000). Research studies on second/foreign language reading have consistently confirmed the importance of reading strategies on developing language learners' reading comprehension skills (Zare & Nooreen, 2011; Brantmeier, 2002; Slataci & Akyel, 2002; Song, 1998; Carrell, 1989). They argue that strategy use is different in more and less proficient readers, who use the strategies in different ways.

Moreover, it has been acknowledged that reading strategies can be taught to learners and that reading strategy instruction can benefit all students (Carrell, 1989; Carol, 2002; Janzen, 1996).

Belilew (2015) studied the rate of recurrence of reading strategy use among Ethiopian EFL learners. It tried to figure out the possible relationship between reading strategy use and reading comprehension. Forty EFL learners participated in the study. A reading strategy inventory and a reading comprehension test were used to collect the required data. According to the findings Ethiopian EFL learners can be categorized as medium strategy users. It was also revealed that Ethiopian students reading comprehension is below what is expected of them. Furthermore, the use of reading strategies had neither positively nor negatively correlation with reading comprehension achievement.

2. 13 Conceptual Framework of the Study

The conceptual framework of a study is the part where the researcher describes the main concepts which form the basis of the study. Regarding this, Glatthorn (1998:87) writes: "It (conceptual framework) identifies the concepts included in a complex phenomenon and shows their relationships. The relationships are often presented visually in a flowchart, web diagram, or other type of schematic". As captured in the title, this study focused on D/HH students EFL reading comprehension problems.

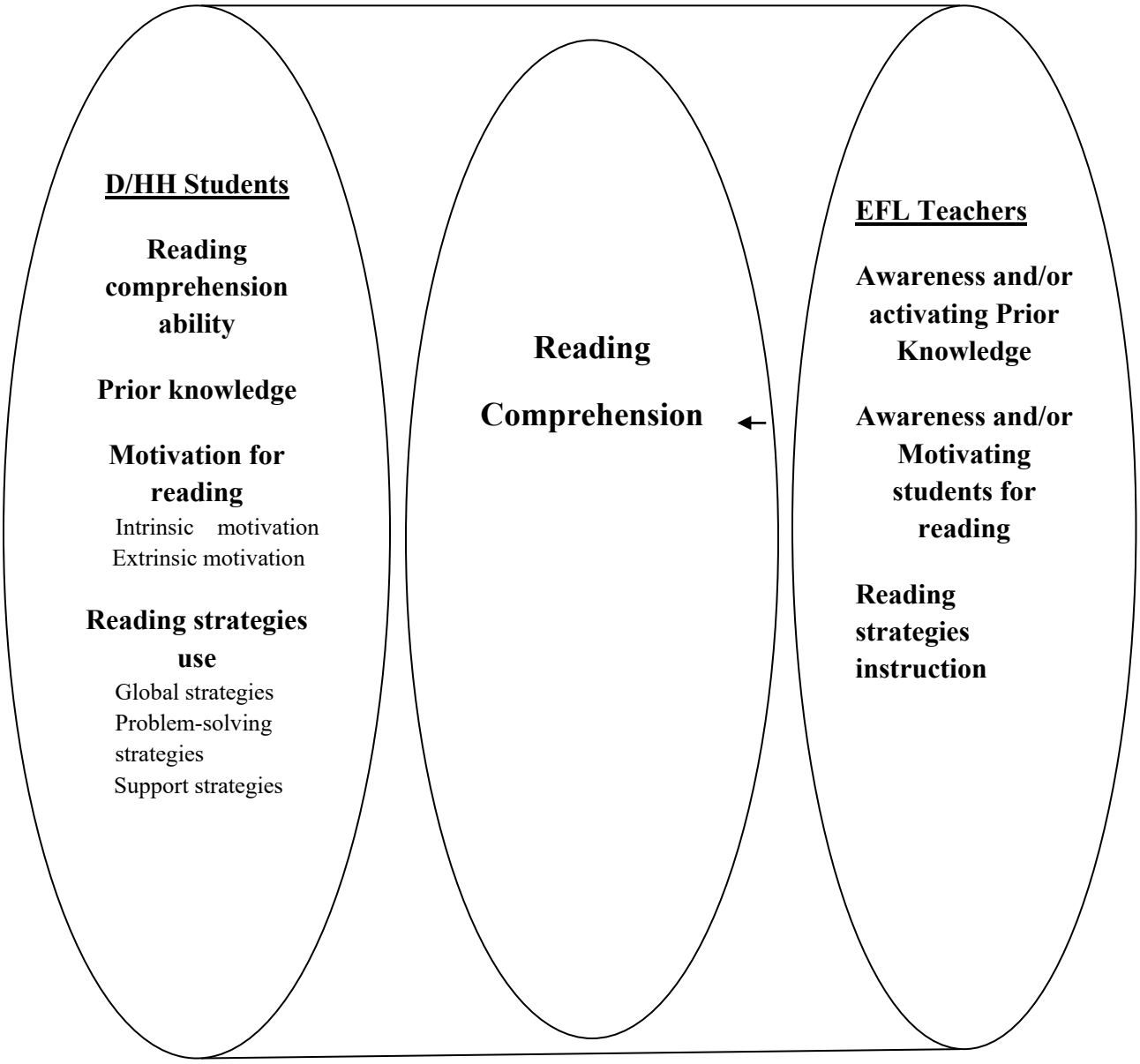
Accordingly, the concepts which underlie the study are variables concerning students (reading comprehension ability levels, back ground knowledge, reading motivation and reading strategy). Reading comprehension and/or problems related to it in a particular group of students involves, among other stakeholders, students themselves and their teachers. To read and understand a text, students need to possess appropriate cognitive and affective predispositions. Teachers on their part play a critical role in fostering reading comprehension by activating learners' prior knowledge, motivating learners and conducting strategy-based instruction.

As explained in the preceding paragraph, students' cognitive and affective characteristics are among the prerequisites for reading comprehension. Cognitive factors refer to students' reading comprehension ability levels and prior knowledge linked with their strategic thinking. Unless they possess reading comprehension abilities required for their levels, they cannot be expected to engage in successful reading comprehension. Also, the development of reading comprehension requires the use of appropriate cognitive and socio-affective strategies. Students' attitude (perception of prior knowledge) and motivation are also important determinants of reading. If students have positive attitude towards their prior knowledge to learn a new language and reading materials written in that language, they are likely to use all opportunities that help them to learn the language and develop reading comprehension abilities. Similarly, appropriate motivation (clear reading goal and high reading self-efficacy) facilitates the development of independent reading.

On the other hand, reading comprehension among students requires adequate teacher scaffolding. Teachers should train students to use cognitive and socio-affective strategies so that the latter can develop self-regulatory skills and take charge of their own reading. This can be done by creating awareness among students about reading strategies and designing reading lessons that require the application of different strategies.

Based on the above explanations, the following conceptual framework model has been suggested:

Figure 2.2: Conceptual framework of the study



Chapter Three

3. Research Design and Methodology

This chapter begins with the general methodology of the research. Under the general methodology, the research paradigm and approach, the research design and techniques of the site and participants selection would be presented. The rationale for the participants' and site selection would also be emphasized. In addition, the instruments of data collection: namely, test, students' questionnaire and teachers' interview would be included in this chapter. Furthermore, the quantitative and qualitative data analysis methods used would be discussed. Finally, the issues of validity, reliability and ethical considerations of the research would be preceded by the pilot study.

3.1 The research paradigm and approach

This sub-section deals with the research paradigm, which Creswell (2007, p. 19) defines as 'basic sets of beliefs that guide actions'. It also presents how the mixed-methods approach is used in this single study.

3.1.1 The research paradigm

Comments on the debate surrounding research paradigms contend that the struggle for the primacy of one paradigm over others. So long as many literatures are concerned, this struggle is irrelevant as each paradigm is an alternate offering with its own merits (Guba, 1990, p. 27). Creswell (2007, pp. 19-27) identifies several schools of thought in the paradigm debate or so-called 'paradigm wars'. At one end of the debate are the 'purists' who assert paradigms and methods should not be mixed. Another school of thought is identified as the 'situationalists' who contend that certain methods can be used in specific situations. In direct opposition to the 'purists' are the pragmatists who argue against a false dichotomy between the qualitative and quantitative research paradigms and advocate for the efficient use of both approaches.

Many mixed-methods researchers and theorists also draw strong associations with mixed methodology and pragmatism. For example, Johnson and On wuegbuzie (2004, p. 17) summarize the philosophical position of mixed-methods researchers when they say, "We agree with others in the mixed-methods research movement in that consideration and discussion of

pragmatism by research methodologists and empirical researchers will be productive because it offers an immediate and useful middle position philosophically and methodologically."

Pragmatism also offers a practical and outcome- orientated method of inquiry that is based on action and leads, iteratively, to further action and the elimination of doubt; and it offers a method for selecting methodological mixes that can help researchers better answer many of their research questions (On wuegbuzie, 2004). Guba and Lincoln (2005, p. 200) discuss how positivists and post-positivists can be reconciled through mixed-methods in ways that make the simultaneous practice of both possible. Therefore, pragmatism has a strong philosophical position in mixed-methods approach or methodological pluralism camps. In this study, thus, pragmatism, which is the worldview of mixing qualitative and quantitative research methods, is preferred to be used.

3.1.2 The research approach

Some studies require the use of a single method approach while others demand the use of multiple method approaches depending upon the research questions they intended to answer. Researchers who are interested in finding out the causal relationship or the outcome of phenomena, for instance, resort to experimental or quantitative research methods where all extraneous variables have to be controlled to justify that the effect is the result of an independent variable (Do rnyei, 2007, p. 21). Research which aims at exploring processes involved in a phenomenon such as classroom research, on the other hand, may find the combination of the two methods more amenable (Do rnyei, 2007, p. 148).

Although they admit that differences exist between the two approaches, Scott and Usher (2011, p. 98) claim that the assumption that the quantitative and qualitative approaches represent two distinct and opposed approaches to the study of the social world is being challenged. They even go to the extent of saying that the two methods do not belong to separate research paradigms and thus can sensibly be used within the same investigation.

This mutual enrichment of qualitative and quantitative methods has also gained acceptance by researchers as the advantage of embedding one method into the other has become more popular (Creswell & Clark, 2007, pp. 9-10; Sarantakos, 2004, p. 52).

According to Do rnyei (2007, p. 56), mixing the two methods, first, has a complementary function that enables to look into not only overlapping but also different aspects of a phenomenon from different perspectives. It also helps get a comprehensive and fuller portrait of the issue when used sequentially as in the case where the result of the first method informs the need of the second one. Furthermore, it functions when researchers want to extend the scope and breadth of a study by including multiple components. Second, purpose of utilizing mixed-methods in a single study serves the purpose of maximizing the validity of the results through method triangulation. Method triangulation is a way of checking the validity of the result of a study by using different methods (validation-through-convergence) (Creswell & Miller, 2000, p. 127).

In this study, the compelling reason for implementing the mixed-methods approach was an attempt to expand the understanding of the issue by painting a relatively more complete picture of the situation by looking into its different aspects, i.e., to explore the problems encountered by deaf students in comprehending what they read in EFL classes in Hossana Mekane Eyesus School for the Deaf. This can be evident from the formulation of the research questions. While RQ1, focused on the current reading comprehension levels of grade 5-12 deaf students of Mekane Eyesus School for the Deaf. RQ2 was designed to explore deaf students' related factors that affect their EFL reading comprehension. RQ3 was related to EFL teachers' related factors that affect deaf students reading comprehension. Accordingly, the first two research question (RQ1 and RQ2) generate quantitative data through test and deaf students' questionnaire which need a descriptive and inferential statistical analysis (mean, median, standard deviation and percentage and different statistical tests). The rest, (RQ3), generated qualitative data that needs narration in themes. The quantitative data from the test and deaf students' questionnaire would be supplemented by the qualitative data from the interview. In sum, the present study suited both quantitative and qualitative approaches.

3.2 Research design

As the study deals with describing factors that hinder the reading comprehension of deaf students, a descriptive co-relational study design was used. This design was chosen because of its importance to describe variables in a study and the relationships that occur naturally between or among them. Furthermore, the results from this kind of research design provide knowledge base

for potential hypotheses that direct quasi-experimental and experimental studies (Creswell, 2003).

In line with this as there is a noticeable absence of extensive research on deaf population EFL reading comprehension to determine appropriate baseline information, this study design would pave the way for the establishment of the basis on which future experimental studies can be conducted.

3.3. Sources of data and population of the study

The sources of data were deaf students and EFL teachers of Hossana Mekane Eyesus Deaf School. According to the data from the school, there are 220 students from 'o' class up to grade 12in 2012 academic year. Regarding teachers of the school, there are 30 teachers. Both the students and the teachers were taken as the population of the study. The populations of the study were therefore, 220 students and 30 teachers.

3.3.1. Selection of the research site

The research site, Hosanna Mekane Eyesus School for Deaf is the only boarding school for deaf children in South Nations Nationalities and People Regional State (SNNPRS), Ethiopia. Since the school is deaf boarding school, students and teachers use sign language, Amharic language and English language reading and writing to communicate each other. Moreover, students learn and depend for their academic success in these language skills and learners' ability of English can greatly be determined by their ability to read. With regard to this, Atkins et al 1996 note that students' eventual academic success or failure depends to a large degree on their ability to read and comprehend the text books and notes they receive in the different subjects they study as all these study materials are written in English. Therefore, it is hoped that this study in this site would contribute much to minimize some of problems encountered by deaf students in comprehending what they read in EFL.

Though Luckner and Hadley (2008) identifies, environmental factors (the home environment, the school environment, the social environment, the cultural environment) and language factors (oral and written language, receptive and expressive language, systems of oral language, speech problems and language disorders) are among the factors that amped reading comprehension, the

school nature would help the research to be feasible by focusing on investigating problems out of these domains. Moreover, the children are from all over the country and this made the school ideal place for studies regarding deaf learners in the country.

3.3.2. Sample size and sampling techniques

3.3.2.1. Sampling size

The researcher used Kothari (2004) sample size calculator formula to determine sample size of the study. This was chosen because the formula is brief that the researcher and readers can easily understand the sample size determination.

$$n = \frac{(\text{Z-Score})2p*q*N}{E2\,(N - 1) + (\text{Z-Score})2p*q}$$

Where n= sample size

N= total number of population

Z=c= confidence interval

p= sample proportion

Q= 1- p

E= error factor, Then=?

N=220 Z=1.64

Q= 0.5 C=95%

P= 0.5 E=0.05 or 5%

$$n = \frac{(1.960)20.5*0.5*220}{0.052(220-1)+(1.9602)0.5*0.5}$$

$$= \frac{211.28}{1.846}$$

=114.45 or n= 114

Therefore, the sample of this study from the population of 220 deaf students with confidence level of 95% and margin of error 5% (0.05) was 114 deaf students. In addition to this, four EFL teachers were included in the study.

3.3.2.2. Sampling technique

The sampling technique which was employed for selecting participant deaf students of this study was purposive sampling. Purposive sampling technique enables researchers handpick cases satisfactory to the specific needs of a study (Louis Cohen, Lawrence Manion and Keith Morrison, 2000). Therefore, the main objective of the current study was exploring the reading comprehension problems encountered by deaf students in comprehending what they read in EFL; grade levels nine and above in which the medium of instruction shifts from mother tongue to English language consistently throughout Ethiopia particularly the study region, SNNPRS, and reading comprehension develops well and becomes incredibly important were included in the study. However, the selection of participant EFL teachers was using convenience sampling technique.

3.4. Research instruments and procedures of data collections

1. The students' reading comprehension test

Reading Comprehension was assessed adapting a Standardized Diagnostic English Reading Test, MICO (Milner, 2021). The MICO Diagnostic Reading Test was designed to assess the reading performance of students in grades 1 to 6 and with struggling readers at the secondary level. Besides, the MICO test is a highly secure and internationally administered test for assessing the reading comprehension level of students. The test consists of graded word lists and reading passages with four to eight questions accompanying each passage. It has substantial reliability estimates between 0.87 and 0.90 Solomon (1999). The result of the test was interpreted on the basis of three reading levels. According to Vivan (2017), there are three levels of reading comprehension categories: independent reader (a reading comprehension score of 90% and above), instructional reader (a reading comprehension score of 60% to 89%), and the frustrated reader (a struggling reader) (a reading comprehension score of below 60%. The estimated time for the test administration was 20 minutes.

In addition to this, before the adapted MICO test was administered, the readability level of the reading passages of it had been tested using Gunning Fog Index to check whether the reading passages are appropriate to the students' grade level or not. In linguistics, the Gunning fog index is a readability test for English writing. The index estimates the years of formal education a person needs to understand the text on the first reading. For instance, a fog index of 12 requires the reading level of a high school graduate (around 18 years old). The fog index is commonly used to confirm that text can be read easily by the intended audience. Texts for a wide audience generally need a fog index less than 12. Texts requiring near-universal understanding generally need an index less than 8. The test was developed by Robert Gunning in 1952.

The Gunning fog index is calculated with the following algorithm:

1. Select a passage (such as one or more full paragraphs) of around 100 words. Do not omit any sentences;
2. Determine the average sentence length. (Divide the number of words by the number of sentences.);
3. Count the "complex" words consisting of three or more syllables. Do not include proper nouns, familiar jargon, or compound words. Do not include common suffixes (such as -es, -ed, or -ing) as a syllable;
4. Add the average sentence length and the percentage of complex words; and
5. Multiply the result by 0.4.

2. The students' questionnaire

A questionnaire is a commonly used and effective tool for gathering data by providing organized, frequently numerical data. The major advantage of a questionnaire, according to Bhandari, 2021 is that it is self-administered and may be provided to a large number of participants at the same time, and that when anonymity is assured, participants are more willing to share sensitive information. The purpose of the present questionnaire was to find out the problems encountered by d/hh students in comprehending what they read in EFL. It is believed that the students can express their feelings freely and more easily through a questionnaire than when they are interviewed to respond to the same questions. Moreover, questionnaires are popular for gathering descriptive information and are less expensive (Selinger and Shohamy,

1990). As the purpose of undertaking this questionnaire was to assess deaf students reading comprehension problems, the sort of challenges or difficulties they encountered that hamper their reading comprehension were explored systematically.

Thus, background knowledge that refers to a content schema that embodies the reader's pre-existing knowledge or real and imaginary worlds (Anderson et al., 1979) or refers to a reader's knowledge about the topic being read (James, 1987) was measured with a questionnaire which was adapted from Al-Jahwari and Al-Humaidi (2015). The questionnaire comprised 9 items with a five point Likert scale that dealt with students' view about the role of their prior knowledge in reading comprehension. A Cronbach's alpha calculated for this study revealed acceptable reliability (.67).

The other construct, motivation to read that was defined in this study as a student's intrinsic motivation and extrinsic motivation was measured with a Motivation for Reading Questionnaire (MRQ) adapted from Wigfield and Guthrie (1997) and Wang and Guthrie (2004). The MRQ is a 53-item Likert-scale questionnaire that the manual claims to measure 11 reading motivation constructs. Wang and Guthrie (2004), on their part, revised the eleven-dimension reading motivation model into an eight dimensional framework incorporating constructs concerning intrinsic motivation (curiosity, involvement and readiness to face challenges) and extrinsic motivation (competition, compliance, recognition for reading, intention to obtain good grades and social reasons for reading). In Wang and Guthrie's study, the consistency and validity of the eight dimensional models was proven with a sample of different grade levels pupils in the US and in Taiwan. The MRQ underwent empirical testing and proved useful for wider application. As a result, as the following examples illustrate, it has been used as a useful measure of reading motivation by different researchers.

Komiyama (2013) indicated that in 2001, Tercanlioglu adopted Wigfield and Guthrie's (1997) eleven dimensional framework to study Turkish high school EFL students' reading motivation. Guthrie, Wigfield and Vonseckers (2002) further validated the curiosity, involvement and willingness to face reading challenge dimensions of the MRQ in their study aimed to examine the effects of integrated instruction on motivation and reading strategy use among fifth and eighth grade students in three schools bordering a large, mid-Atlantic state metropolis, USA.

Thus, it seems reasonable to adapt the MRQ to measure reading motivation in the Ethiopian EFL context. It was with this rationale that decision was taken to adapt this questionnaire for use in this study. Accordingly, like Wang and Guthrie (2004) eight dimensional frameworks in two constructs, in this study the constructs were categorized into two general categories each with eight and seven questions respectively: intrinsic motivation (reading curiosity, reading challenge, reading efficacy) and extrinsic motivation (reading for grades, recognition for reading, compliments and competition in reading). Reliability for the two constructs ranged from .76 to .79

The last construct was reading strategy use. To assess the different reading strategies use, Cognitive Awareness of Reading Strategies Inventory (CARSI; Mokhtari & Reichard, 2002) adapted based on the objectives of the study and its related literature. There were 30 items with a five point Likert scale to rate factors related to global, support and /or problem solving reading strategies in the questionnaire. The CARSI yields scores in three subtests of global, problem solving and support reading strategies and an overall reading strategies score. Global strategies relate to global analysis of the text, such as determining the purpose of the text and using textual aspects to enhance reading comprehension. Problem-solving strategies relate to strategies used when the text is difficult. Strategies that fall within this category include reading slowly and carefully and guessing the meaning of unknown words. Support-reading strategies relate to the use of other material to aid in comprehension such as the use of reference materials and taking notes. All of them were close-ended and translated into students' mother-tongue or Amharic, by language experts in the field to make it easily comprehendible by the respective respondents.

Overall scores on strategy use as well as scores within the various strategy categories can be calculated by dividing the subscale score by the number of statements in each column to get the average for each subscale. Mean scores range from 1 to 5 and are rated as low (2.4 or less), medium (2.5 to 3.4) or high (3.5 or higher). Internal consistency as determined by Cronbach's alpha for the overall reading strategies score was .9, with coefficients for subscales ranging from .79 to .9.

3. The teachers' interview

Interview is the most widely used research method in a qualitative research. Its main function is to provide a framework in which respondents can express their own thoughts in their own words taking the form of conversation between two people (Leonard, 2003, p. 166). It permits in-depth information gathering, free response and flexibility that cannot be obtained by other procedures (Seliger & Shohamy 1989, p. 166). Furthermore, data that have not been foreseen through other procedures can be probed and obtained through interviews.

There are many types of interviews, the use of which depends on the kind of information required (Sarantakos, 2004, p. 268). Structured interview, unstructured interview and semi-structured interview.

Firstly, structured interview typically involves the use of a structured survey instrument that asks all respondents the same questions in the same order and the responses are amenable to statistical analysis (Sarantakos, 2004, p. 268). Kothari (2004, p. 98) clearly states that structured interview is very similar to a questionnaire in that it uses a standard format consisting of predetermined questions in a fixed order. As the interview is designed for teachers who can explicitly tell what is happening in the classroom with regard to using the TL, the present researcher is not interested to provide teachers with a structured interview, which can be answered by saying 'yes' or 'no' or 'True' or 'False'.

Secondly, unstructured interview, as its name indicates, employs unstructured interview schedules containing a number of open-ended questions, whose order and wording can be changed as well. The flexibility of unstructured interview enables a researcher to have a more in-depth look into the mind of the subject and is more suited for most qualitative studies (Sarantakos, 2004, p. 268).

In unstructured interview, a greater freedom is offered to the interviewee by the non-directive interview where the researcher assumes a limited role and lets the interviewee narrate his/her history the way s/he thinks fits thereby allowing him/her maximum opportunity to direct the conversation (Cohen, Manion & Morrison, 2000, p. 270). However, Kothari, 2004, p. 98) expresses his fear saying that responses from unstructured interviews are hard to deal with

because they are unmanageable. He further argues that this may affect the reliability ('reproducibility') of the data produced (ibid).

The other fear is that since the interviewer may change the order of questions and present to different people, or phrase the same question differently, it may be difficult for the researcher to compare answers. In other words, it makes the coding, the transcription of tape-recorded data, the organization and comparison of the data very difficult and time consuming. Considering Kothari's fear, the present researcher reserved himself from using unstructured interview.

Thirdly, semi-structured interview lies somewhere between the structured and unstructured types of interview (Sarantakos, 2004, p. 269). It consists of specific and defined questions determined beforehand, but at the same time, allows some elaboration in the questions and answers (Nunan, 1992, pp. 149). In addition, semi-structured interview allows the respondent freedom of expression thereby allowing ample and often unexpected information to emerge (Seliger & Shohamy 1989, p. 167) as compared to structured interview. In this research, thus, semi-structured interview was preferred because it does not adhere merely to statistical and closed questions, which inhibit getting ample information; neither does it allow a much uncontrolled kind of conversation. Accordingly, an interview guide, which had seven open ended but semi-structured items was designed for the four interviewees.

Accordingly, teachers were requested to reflect on teacher related factors that hinder deaf students reading comprehension vis-a-vis deaf students' background knowledge, motivation to read and reading strategies use. The researcher developed the interview questions based on the questionnaire items.

3.5. Procedures of data collection

The data collection procedure was first permission to collect data from both the deaf students and the EFL teachers were guaranteed from the school director and then teachers were also asked and made to fill consent form whether they were willing to participate in the study or not. Having got the necessary permission, first the deaf students took reading comprehension test in the beginning of first semester of the academic year 2014. Second, the next day of the reading comprehension test, the students were provided with both English and Amharic version of the

students' questionnaire side-by-side to whom the original version of the questionnaire, the one presented in English, become vague or not easily understood. The questionnaire had cover letters attached to it, to explain the nature of the study as well as assuring confidentiality of any information of the respondents. Moreover, the respondents were also provided with detailed instructions as to how the questionnaire was completed and returned. The rationale behind providing clear instructions and assuring confidentiality of information was based on the fact that this significantly reduces the likelihood of obtaining biased responses (Cohen, Manion, & Morrison, 2005). Finally, after one week the collection of the quantitative data, qualitative data were gathered through semi-structured interview from the four EFL teachers. It was arranged to be after one weeks in order to avoid consecutive class misses of the teacher, which would result in students' disturbance in the school.

3.6. Methods of data analysis

The data that were collected from deaf students through the test and questionnaire were analyzed through descriptive and inferential statistics. Statistical Package for Social Science software program (SPSS) version 21 was used to enter, clean and analyze the quantitative data.

Therefore, in first instance the quantitative data which were collected from the deaf students through the test and students questionnaire were analyzed using descriptive statistics, frequency, percentage, mean and standard deviation to determine the current reading level of each grade level and to identify the factors that affect the reading comprehension of deaf students respectively. Secondly, inferential statistics was utilized to check the statistical significance of the results. Thus, Pearsons' r correlation coefficient and Spearman's roh rank order correlation coefficient were used to calculate the relationship between the factors of reading comprehension and reading comprehension level. In addition to this, multiple linear regression was employed to observe the extent to which the factors of reading comprehension predict reading comprehension level. Multiple linear regression is important to look at the relationship between one 'effect' variable, called the dependent or outcome variable and one or more predictors, also called independent variables (Daniel Muijs, 2004).

Finally, the qualitative data were analyzed using Nvivo 12 pro, qualitative data analysis computer software.

Accordingly, the qualitative data were transcribed from audio file to text, coded into nodes and produced different maps and theoretical models. Based on the results, conclusion and recommendations were given.

3.7 The Pilot Study

Conducting a pilot study serves many purposes. Among these examining the extent to which the methods and procedures of data gathering are appropriate and practical for generation and analysis of data a study requires take the for front position (Alderson, Clapham and Wall, 1995). Thus, a pilot study of the current research was conducted to examine the extent to which the methods and procedures planned to be employed in the main study were appropriate for the generation and analysis of data and revise them in light of what the pilot study reveals before they become fully operational in the main study. Therefore, the three data collection instruments: the reading comprehension test, the questionnaire and the interview were tried out. Before presenting the details of the processes of the piloting, it seems reasonable to start the discussion of this section with brief descriptions of the school environment, participants profile, teacher researcher relationship, ethical issues and other relevant matters which had a bearing on the entire study.

3.7.1 The School Context

The schools selected for the pilot study site were Hossan Ersa Adada Primary School, Jajura Primary School and Hossana Wachemo Secondary School. These schools were chosen because they are resource centers for special need education in Hadiya zone where the main study would be conducted. Two of the schools are located in Hossana Town whereas, the other one school is located in Jajura, a nearby wereda town around 20 Kilometers far from Hossana Town.

Both Ersa Adada and Jajura Primary Schools are medium-sized with 25 and 20 classrooms respectively. Each of them has one resource center for all kinds of special need students. In Ersa Adada Primary School there are 1500 students in three shifts of which 20 special need students. Whereas, in Jajura Primary School there are 800 students in three shifts of which 15 special need students. Deaf students, the concern of the current study, constitute eight students and five students among the special need students of each of the primary schools respectively.

Besides the students, there are 60 and 45 teachers of which five and four EFL teachers in each of the primary schools respectively. Each classroom in both schools can barely 20-22 desks in triple rows, with no teacher's desk. There is one small staff room in each of the schools. These small staffrooms serve teachers to take rest during recess and consult students. The schools do not have tearooms. Teaches take tea and similar services under a shade of trees.

Unlike the primary schools Wachemo Secondary School is relatively large in size with 35 classrooms including one resource center for students with special need. There are 2000 students of which 23 special need students in three shifts. d/hh students, the concern of the current study, constitute eight among the special need students. Regarding teachers, there are 80 teachers of which eight EFL teachers. There are different rooms that serve different purposes in the school; such as staffroom, tearoom and different offices.

Like in other government schools, majority of the students in all the pilot study schools come from low and middle income families. When parents of these students come to school for different purposes they use the local language, Amharic, to communicate with school principals and teachers. Like their parents, students use this language to communicate with each other and with their teachers except the deaf students. However, since English is used as a medium of instruction from grade 5 through college and university, students and teachers are required to use English for classroom interaction and communication. All the three schools are endowed with a supportive, collaborative and collegial in their working culture. The school management and other office personnel are supportive of their staff. The schools principals, the vice-principals and the special need education focal teachers respect their professional judgment. They were always ready to allow their staff members to make adjustments to their teaching schedules in order that they can pursue professional development activities and provide quality education for all.

3.7.2 Deaf students' profile

The total number of deaf student participants from the three schools was 21. They were enrolled grade 5 to 12. There were 6 (28.6 %) deaf students in grade 5, 2 (9.5 %) deaf students in grade 6, 1 (4.8 %) deaf student in grade 7, 4 (19 %) deaf students in grade 8, 3 (14.3 %) deaf students in grade 9, 2 (9.5 %) deaf students in grade 10, 2 (9.5 %) deaf students in

grade 11 and 1 (4.8%) deaf student in grade12. Furthermore, observing the descriptive statistics analyzed in a more comprehensive way above, the current study deaf students could also be categorized into two educational levels: primary educational level and secondary educational level. Accordingly, 13 (61.9 %) deaf students were in primary education level and 8 (38.1 %) were in secondary educational level.

3.7.3 Teacher participants

The participant EFL teachers were three. They all have different profiles. In order to keep the anonymity of the participant EFL teachers, a pseudo name (TA for EFL teacher 1, TB for EFL teacher 2 and TC for EFL teacher 3) had been given to each of them. TA was a primary school EFL teacher, a diploma holder and had 5 years EFL teaching experience and communicates and delivers lesson with both English language and sign language. TB was also a primary school EFL teacher, a diploma holder and had 3 years EFL teaching experience and communicates and delivers lesson with only sign language. TC was secondary school EFL teacher, a degree holder and had 10 years EFL teaching experience and communicates and delivers lesson with only English language.

3.7.4 Pilot Test of Measures

Twenty one deaf students who were enrolled in the three special need education center schools were included to the pilot study using convenience sampling technique to pilot the adapted MICO Diagnostic English Reading Comprehension Test and students' questionnaire. The deaf students ranged from grade 5 to 12.

In addition to the deaf students, three EFL teachers who were delivering EFL subject for the class the deaf students enrolled in were selected using purposive sampling technique to pilot the interview instrument. Purposive sampling technique was employed because of its advantage of enabling researchers get the necessary data from the right samples.

The adapted MICO Diagnostic English Reading Comprehension Test was administered first in Ersa Adada Primary School and Jajura Primary School on January 3, 2021 at 5:00 a.m proceeded by checking whether the participants wore masks and sat keeping their distance though the schools check masks at the gate and arranged seats in appropriate distance in

each school. The invigilators did these all supported by an interpreter sign language translated instruction. The tests in both schools were administered in SNERC rooms. The average administration time was 20 minutes. I was in Ersa Adada Primary School during the test administration with the interpreter (SNERC focal teacher) to invigilate the test. In Jajura Primary School an interpreter (EFL teacher) and a SNERC focal teacher had administered the test.

The participants did not demonstrate any difficulty in understanding what was required for the test. Second, the adapted MICO Diagnostic English Reading Comprehension Test was administered in Wachemo Secondary School on January 17, 2021 at 10:00 p.m in SNERC room preceded by checking masks and the students' seats distance and sign language translated instruction. The average administration time was 20 minutes. I was in the school during the test administration with an interpreter (SNERC focal teacher) to invigilate the test. Like the two primary schools, the participants did not demonstrate difficulty in understanding what was required for the test.

The students' questionnaire was administered the next day of the test administration in all the three schools in the same rooms. Like the test administration, the questionnaire administration was preceded by students' masks wear and their seats distance check up. It was administered with a close supervision of a sign-language interpreter. The interpreter translated each question and provided an explanation for any student who did not understand what was required for the question. Approximately 80% of the students encountered difficulties in understanding the meaning of each of the numbers that make up the five point likert scale in the questionnaire.

The questionnaire required a significant amount of reading. To address this, interpreters were present at the group setting of the administration to assist participants in comprehending the questions. Interpreters met with the researcher prior to the group administration and were briefed on the nature of the questionnaire. Each question was translated into Amharic language and consensus reached on the clarifications that may be required. On the day of administration, deaf student participants were given the questionnaire and briefed on the nature of the questionnaire and how to complete it.

Then they were instructed to complete the questionnaire on their own and to ask for clarifications as needed. The majority of the students required assistance on approximately 40% of the questions. Because each student was working at a different pace, the interpreter had to repeat explanations as needed by each student.

The nature of the questions asked by different students was very similar. Due to this, the group administration that was expected to last between 50 to 55 minutes was completed after 60 minutes. The difficulties encountered during the administration of the questionnaire resulted in the decision to have the interpreter lead the administration, addressing each question before moving on to the next question as a group. In doing so, it was expected that each student would benefit from the group explanation of each question. Internal consistency as determined by Cronbach's alpha for the overall students' questionnaire was (.9) with coefficients for subsections ranging from (.67 - .87). That is Cronbach's alpha for role of background knowledge was (.67), reading motivation was (.79) and reading strategies was (.87.). Finally, after two weeks the collection of the quantitative data, qualitative data were gathered through semi-structured interview from the EFL teachers. It was arranged to be after two weeks in order to avoid consecutive class misses of the teacher, which would result in students' disturbance in the school.

3.7.5 Sample Data Analysis

Data analysis was the other concern of the pilot study. The method and procedures used to analyze the data collected through the test, the questionnaire and the interview were tested to assess whether the coding system or analyzing method needed some changes or improvements. According to Miller and Schumacher (2001, p.418) "It is impossible to analyze and interpret data unless one organizes them". So to organize the data the researcher used Miller & Schumacher (2001:418) five sources that they suggest researchers can use for organizing data. These are:

- The research question and foreshadowed problems or sub questions.
- The research instrument such as the interview guide.
- Themes, concepts or categories used by other researchers in prior studies.

- Prior knowledge of the researcher.
- The data itself. (p. 418)

According to Miller and Schumacher (2001, p. 418), the first four sources contain predetermined categories and the fifth source produces topics that become part of a more abstract category.

They further point out that a researcher can use all five on the ground that s/he realizes the degree to which each is fruitful depending on the focus and the purpose of the study.

Accordingly, in this study the researcher used all particularly, the research question and foreshadowed problems or sub questions for the organization of data collected through the three data collection instruments. To this end, descriptive and inferential statistics of the test and the questionnaire data were performed using SPSS Version 21, quantitative data analysis software. However, thematic analysis of the interview data was tired out using manual approach to qualitative data analysis.

3.7.6 Lessons learned from the pilot study

Conducting the pilot study gave the researcher opportunity to identify problems and seek solutions for them so that the main study could be conducted effectively. First, in piloting the reading comprehension test, the participants did not demonstrate any difficulty in understanding what was required for the test. However, the researcher have learned to include some more information or instruction in the test such as; time allowed and weight of the test to make the test clearer and more comprehensible for the target participants.

Second, in the students' questionnaire, as approximately 80% of the students encountered difficulties in understanding the meaning of each of the numbers that make up the five point likert scale, particularly, in section three of the questionnaire, it was learned and planned to replace the five point likert scale value levels (1 means "I never or almost never do this." 2 means "I do this only occasionally." 3 means "I sometimes do this." 4 means "I usually do this." 5 means "I always or almost always do this.") with a single word each like: 1 = never, 2 = occasionally, 3 = sometimes, 4 = usually and 5 = Always. In addition to this, since the majority of the students required assistance on approximately 40% of the questions; each student was

working at a different pace; and made the interpreter to repeat explanations as needed by each student, it was learned to make the interpreter lead the administration addressing each question before moving on to the next question as a group. This would benefit all the participant students, the invigilator and/or the interpreters by avoiding unnecessary repetition of the interpretation, as the nature of the questions asked by different students was very similar.

In doing so, it would be expected that each student would benefit from the group explanation of each question and manage the time allocated to the questionnaire.

Third, in piloting the interview, delay happened between piloting the first to instruments (the reading comprehension test and the students' questionnaire) and the EFL teacher interview had an impact on the pilot schedule and quality of the interview as well. In some instance, there was a delay between the two events because the teachers had to go to another class immediately after they finished the questionnaire sign language translation. At other times, the delay happened because the teachers had to deal with school and student affairs which required immediate attention. Therefore, in the main study it was imperative to look for an appropriate time schedule for the EFL teachers to appear for interviews with no significant delay from the piloting of the test and the questionnaire. To this end the researcher had to consult the main study school weekly program to find out appropriate schedule that permit the EFL teachers to be immediately available for the interview.

Besides the interview schedule adjustment, as one of the EFL teachers avoided the interview, the researcher have learned that EFL teachers fear to be interviewed in English by English expertise, the researcher. Thus in the main study the researcher would find a way (interviewer) to manage this. Moreover, the manual approach to transcription, coding, thematic analysis and interpretation of the qualitative data analysis took much of the study time and the analysis quality. Therefore, in the main study analysis of the interview data the researcher would employ the planned Nvivo 12 pro software so that the researcher could use its time effectively and analyze the data in a more comprehensible form using the different features of the software such as: tree node, child node, concept map and theoretical map.

Finally, it was also possible to learn from the pilot that when entering data in the SPSS and analyzing data in the pilot study, there were moments that required me to check and recheck the

raw data of the test and the questionnaire. Therefore, things learned from the pilot study were well taken care of in order that issues that emerged during the pilot would not be of serious impediments to the smooth running of matters in the main study.

3.8 Validity

It is defined as the capability of a research instrument to measure what it is meant to measure (Kirk & Miler, 1986:19). Therefore, as Kumar (1996:137–138) explains, data gathering instruments should be prepared so that each item/question is logically linked to one objective (face validity); the items/questions should cover all aspects of the issue being studied (content validity); one instrument must be comparable with another instrument simultaneously used (concurrent validity), and the instrument(s) should predict the outcome (predictive validity).

Therefore, the validities of the survey instruments (reading comprehension test and questionnaire) of this study had been ascertained. To establish face and content validity of the test, utmost care was taken in adopting an appropriate measurement from MICO Diagnostic Reading Comprehension Test. The test draft was also subjected to the comments of Grade 5 - 12 English language teachers in deaf school. In addition, the commented version of the test was piloted to find out whether it could measure what it was intended to measure and revisions would be made for the main study accordingly. Similarly, to maintain the face and content validities of the questionnaire respectively, maximum care was taken in its design to make sure that each item logically fitted one research question and to ascertain that all aspects of the research issue were fairly represented. To achieve concurrent validity of the questionnaire, utmost effort was made to ensure that it contained items related to the research issue and the literature review. The questionnaire so prepared was then subjected to the comments of colleagues and the research supervisor since doing so was believed to help improve the quality of each item and to enhance the face and content validities of the instruments. For example: The following two items (I often read to others and I sometimes read to others) were omitted because of the major changes made in the likert scale from four point to five point likert scale. The original scale was ranged from Very different from me – A lot like me but the revised ranged from Never – Always.

On the other hand, while representative sample sizes would be used to increase the external validity of the quantitative part of the study, triangulation was used to validate both quantitative

and the qualitative components, particularly, methodological triangulation, time triangulation and space triangulation were achieved in this study. Additionally, instrument design, data analysis and interpretation of the findings were done in line with the theoretical frame work underpinning the study to address the issue of construct validity. Data were also analyzed and interpreted using appropriate methods to establish the statistical validity of the quantitative component of the study and to increase the interpretative quality of the qualitative component. These steps were thus believed to maximize the predictive validity of the research tools and the soundness of the findings.

Validity in a mixed-methods research can be maintained through construction of appropriate methods of data collection and analysis (Creswell & Miller, 2000, p. 127). Furthermore, to minimize subjectivity and bias in a research, it needs using the strategy of methodological triangulation and data triangulation (Creswell & Miller, 2000, p. 129). Accordingly, with regard to the methodological triangulation, multiple data sources such as test, questionnaire and interview were applied. The strategy of data triangulation was concerned with crosschecking the evidence obtained from the questionnaire responses and the interview.

3.9 Reliability

A research needs to be consistent, stable, accurate and credible. Consistency, stability, accuracy or credibility of a research study refers to its reliability. That is, the reliability of a study refers to its consistency on repeated trials (Kirk & Miller 1986:19). Regarding this, Golafshani (2003:598) quotes Joppe (2000) as saying "… The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as its reliability". Accordingly, if a given study can be replicated under a similar condition using the same methodology and yields outcomes comparable with the previous ones, it is considered reliable. There are two types of reliability: external reliability and internal reliability. While external reliability is the degree to which an independent investigator can repeat a study and come up with conclusions similar to the conclusions drawn in the previous study, internal reliability refers to the consistency of data collection and interpretation procedures. That is, internal reliability is a question of whether a research, replicated through the same methods and procedures, leads to the same findings observed during the first investigation (King, Keohane & Verba 1994:27).

In an attempt to establish the reliability of this study, apposite methods of data collection and analysis were used. Firstly, the instruments were adopted from the existing literature and/or designed based on scholars' views. Secondly, the methods of data analysis and interpretation, as much as possible, drew on the literature review and previous research works with strict adherence to the aim of the study. Thirdly, the items of the questionnaire were adopted and/or designed carefully so that they meant the same thing to all respondents, even at different times. The intents of the study were also explained clearly to the research participants before questionnaire administration so that all could acquire the same understanding and provide credible data. Additionally, EFL teachers' interview was conducted by the researcher, following the same procedures in all the settings and for all the documents, so that all the pertinent activities and facts were recorded uniformly. What is more, to check the reliability of the quantitative data, the internal consistency of the items was determined by calculating the Cronbach's alpha coefficient from the results of the pilot study. Based on the results of the pilot study, no items in the students' questionnaire were removed since they had no low internal consistency index (Cronbach's alpha coefficient). However, the researcher have included some more information or instruction in the test such as; time allowed and weight of the test to make the test clearer and more comprehensible for the target participants.

Moreover, in the students' questionnaire, as approximately 80% of the students encountered difficulties in understanding the meaning of each of the numbers that make up the five point likert scale. Particularly, in section three of the questionnaire, it was replaced the five point likert scale value levels (1 means "I never or almost never do this." 2 means "I do this only occasionally." 3 means "I sometimes do this." (about 50% of the time) 4 means "I usually do this." 5 means "I always or almost always do this.") with a single word each like: 1 = never, 2 = occasionally, 3 = sometimes, 4 = usually and 5 = Always. Problem areas were therefore acted upon to improve the qualities and feasibilities of these instruments. The final instrument included items that had strong internal consistency.

3.10 Ethical considerations

Prior to the commencement of the pilot and the main study, I visited the schools chosen and focal persons for both the pilot and the main study site and had an informal chat with some of the

EFL teachers. Supporting this stance, Gutierrez (1996) says, “The question of access to a research area is considered a vital point as it may not always be easy to be allowed to conduct a study without prior familiarization with the situation on site.

The visits and talks undertaken were a good fortune moment for me to establish a friendly rapport with the potential research participants and discuss aims of the study as well as experiences the teachers have had with regard to the data collection instruments. Fortunately, the teachers who took part in the informal discussion expressed their desire to take part in the study regardless of time constraints and overloads Corona virus, Covid 19 has put them. In fact they had been experiencing overloads because of the division of the usual class size into two in order to keep students distance in a classroom and prevent the spread of Covid 19. Of course, teachers working load had been doubled in the country as well because of corona virus prevention techniques. In spite of this, the participant teachers promised to be involved in the study for they felt that they would get some research lessons that contribute to the Continues Professional Development (CPD) activities they have been conducting as part of their professional development schemes and quality education for all.

This informal discussion also gave the researcher some kind of hint of the concerns EFL teachers and deaf students had and this helped the researcher to look for ways to solve the time pressure they would encounter when they start the actual work of piloting and main study. Following this, it was important to have an official permission from the three selected pilot study schools and the main study school directors to carry out the studies in their schools.

Consequently, ethical choices involve the fundamental rights, dignity and worth of all people Best and Kahn (2003, p. 47). Accordingly, to be formal and cautions of the ethical considerations, first, the researcher requested a permission letter from the Department of Foreign Languages and Literature of A.A.U. Then, the researcher took the letter to Ersa Adada Primary School, Jajura Primary School and Wachemo Secondary School, pilot study schools, and Hossana Mekane Eyesus School for the Deaf, main study school, and informed about the whole purpose of the research project. Having got the necessary permission and approval from the school directors, the researcher asked a sign language interpreter to facilitate communication with deaf students.

Accordingly, the consent of the deaf student participants to participate in the study was obtained orally via the interpreter before the test and the questionnaire were distributed. The participants were told that their answers would remain anonymous and confidential (Cohen, Manion & Morrison, 2000, p. 50).

Chapter Four

4. Analysis and Interpretation of Results

As it was mentioned earlier in chapter one, the main purpose of this study was to assess the reading comprehension problems encountered by deaf students in English classes. This chapter is therefore, deals with the presentation, analysis and discussion of the data in light of this objective. To achieve this general objective and the specific objective of the study raised earlier, the necessary data were gathered from the respondents of the study using three instruments: reading comprehension test, questionnaire and interview. The reading comprehension test and the questionnaire were answered and produced quantitative data by the sample deaf students, whereas the interview questions were responded and produced qualitative data by the English teachers of the school for the deaf. Accordingly, this chapter presents the results in two separate sections. Section 1 presents the quantitative component of the study specifically tries to answer the research questions 1, 2, 4 and 5 that can be classified into two categories. The first two research questions were analyzed using descriptive statistics, mean, median, st. deviation and range. Whereas, the last two were analyzed using inferential statistics, Persons' r correlation coefficient, Spearman's correlation coefficient and Linear regression analysis. The study employed SPSS Version 21 for both of the descriptive and inferential statistics analysis. Section 2 presents the qualitative component of the study specifically tries to answer the research question 3. For this qualitative section of the study, Nvivo 12 Pro qualitative data analysis software was employed for the transcription of audio file to text, coding into nodes and exploring different maps and theoretical models.

Once the data for the study had been collected, then they were systematically organized and analyzed based on the objectives of the study and the methodology employed in the study in order to arrive at the findings of the study.

Section 1: Quantitative data analysis

4.1.Demographic information of the participant deaf students

4.1.1 Demographic characteristics of deaf/hard of hearing student participants

There were 114 deaf/hard of hearing student participants. They were enrolled in grades 9 to 12.

There were 44 (38.6%) deaf students in grade 9, 24 (21.1 %) deaf students in grade 10, 32 (28.1 %) deaf student in grade 11 and 14 (12.3 %) deaf students in grade 12. The majority of the sample, 112 (98%), identified themselves as being deaf.

Table 4.1: Demographic Characteristics of Deaf/Hard of Hearing Student Participants

Characteristics	**Number**	**Percent (%)**
Hearing Status		
Deaf	112	98
Hard of Hearing	2	2
Total	114	100
Grade Level		
Grade 9	44	38.6
Grade10	24	21.1
Grade 11	32	28.1
Grade 12	14	12.3
Total	114	100

4.1.2 Demographic Characteristics of Teacher Participants

There were four EFL teacher participants. They all have different profiles. As learned from the pilot study, in order to keep the anonymity of the participant EFL teachers, a pseudo name (TA for EFL teacher 1, TB for EFL teacher 2, TC for EFL teacher 3 and TD for EFL teacher 4) had been given to each of them. TA was first degree holder and had 5 years EFL teaching experience and communicates and delivers lesson with both English language and sign language. TB was also first degree holder and had 3 years EFL teaching experience and communicates and delivers lesson with only sign language. Similarly, TC was first degree holder and had 10 years EFL teaching experience and communicates and delivers lesson with only English language. Unlike the three teachers, teacher 4 was master's degree holder and had 8 years EFL teaching experience and communicates and delivers lesson with both English language and sign language.

Table 4.2: Demographic Characteristics of Teacher Participants

Characteristics	**Number**	**Percent (%)**
Educational status		
First degree	3	75
Master's degree	1	25
Total	4	100
Teaching Experience		
Below 5 years	1	25
5- 10 years	3	75
Above 10 years	-	-
Total	4	100
Mode of Communication/Lesson Delivery		
Spoken English	1	25
Sign Language	1	25
Both Spoken English and Sign Language	2	50
Total	4	100

4.2 Testing the Research Questions

An initial step in testing research questions is to determine if the data meet the necessary assumptions for application of parametric statistical procedures.

Each parametric test has basic assumptions to ensure accuracy of results. These assumptions include normally distributed data, independence of data points, homogeneity of variance and interval data, particularly for research questions 4 and 5. Exploration of the test variables revealed that some of the assumptions were met and some were not met and indicated in each of the research questions subsequent sections.

4.2.1 Research Question 1: What is the present reading comprehension level of the grades 9-12 students of Mekane Eyesus School for the Deaf?

The first research question examined the results of the adapted MICO reading comprehension test. The participants were given reading passages to read and respond to questions related to the passage. The total number of correct responses received had been scored and converted to percentiles. As the different grade levels test passages had different number of questions, percentiles were chosen to establish similar weight for all grade levels tests. Descriptive statistics were used to present the findings related to this research question.

Table 4.3: Reading comprehension test score of the sample deaf/hh students

Grade level	N	Min.	Max.	Sum	Mean	St. Deviation	Percent of total N
Grade 9	44	17	83	2300	52	16	38.6
Grade 10	24	14	86	1031	43	21	21.1
Grade 11	32	14	71	1230	38	17	28.1
Grade 12	14	0	43	256	18	13	12.3
Total	114	0	86	4817	42	20	100

According to table 4.3 above, grade 9 deaf students 44 (38.6%) of the total participants were struggling readers with (M= 52 and SD = 16). Though grade 10 deaf students 24 (21.1%) of the total participants scored the highest score from all secondary school deaf participants, they were similarly struggling readers with (M= 43 and SD = 21).

Grade 11 deaf students 32 (28.1%) of the total participants were also struggling readers with (M= 38 and SD = 17) and grade 12 deaf students 14 (12.3 %) of the total participants were struggling reader with (M= 18 and SD = 13) as well.

Generally, the scores on the adapted MICO reading comprehension test ranged from minimum 0% to maximum 86% and *mean* = 42 and *Std. deviation* = 20 for the total deaf participants. Thus, the result revealed overall low reading comprehension or the frustrated reader (a struggling reader) which is a reading comprehension score of below 60%. According to the parameter used in this study, Vivan (2017), there are three levels of reading comprehension categories: independent reader (a reading comprehension score of 90% and above), instructional reader (a reading comprehension score of 60% to 89%) and the frustrated reader (a struggling reader) (a reading comprehension score of below 60%).

4.2.2 Research Question 2: What are deaf students related factors that affect their EFL Reading comprehension?

In order to answer deaf students related reading comprehension problems, students' questionnaire having three sections was employed. The first section was about deaf students' perception about the role of their background knowledge. It was measured with a questionnaire, which was adapted from Al-Jahwari, and Al-Humaidi (2015) with some modifications. The second section was about Motivation to Reading. It was measured with the Motivation for Reading Questionnaire (MRQ) adapted from Wigfield and Guthrie (1997) and Wang and Guthrie (2004) and the last section was about reading strategies and techniques. It was measured with Cognitive Awareness of Reading Strategies Inventory (CARSI; Mokhtari & Reichard, 2002).

Consequently, table 4.4 presented the results of the first section of the questionnaire that was deaf students' perception about the role of their background knowledge for reading comprehension. The table presented the mean and standard deviation result of 114 deaf students responses under each of the nine items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Besides, in the last row it presented the total mean and standard deviation for the construct under investigation, which is equal to transformed variable in SPSS of the nine items.

Transforming Data is one of basic data management function which was used for grouping data (Kultar Singh, 2007).

Table 4.4: Deaf students' perception about the role of their background knowledge for reading comprehension.

No	Items	Median	Mean	Range	Standard Deviation
1	Background knowledge enables me to understand the text better.	3	2.96	4	1.39
2	Background knowledge enables me to recall information easily.	3	3.16	4	1.21
3	Background knowledge enables me to read the text quickly.	3	2.98	4	1.33
4	Background knowledge enables me to link the ideas in the text easily.	3	3.07	4	1.38
5	Background knowledge enables me to focus on the main ideas.	3	3.29	4	1.37
6	Background knowledge enables me to overcome limited linguistic knowledge.	2	2.61	4	1.34
7	Background knowledge enables me to relate text to my own prior knowledge.	3	3.34	4	1.20
8	Background knowledge enables me to predict text content easily.	3	3.07	4	1.25
9	Background knowledge enables me to confirm predictions based on prior knowledge.	3	3.32	4	1.31
	Total	3	3.09	4	.46

The findings revealed that the students believe that prior knowledge sometimes help them to relate text to their own prior knowledge with median (3) and mean (3.34) and range (4) and standard deviation (1.39) respectively.

Similarly, the data revealed that prior knowledge sometimes enable them to confirm predictions based on prior knowledge with mean (3.32) and median (3) and range (4) and standard deviation (1.31) respectively. Regarding prior knowledge contribution to focus on the main ideas, the finding revealed mean (3.29) and median (3) and range (4) and standard deviation (1.37) respectively. The result also indicated that prior knowledge sometimes enable them to recall information easily with mean (3.16) and median (3) and range (4) and standard deviation (1.21) respectively. Besides, the students believe that prior knowledge sometimes help them to link the ideas in the text easily and predict text content easily with mean (3.07), enables with mean (3.07) median (3) and range (4) and standard deviation (1.25 and 1.38) respectively (Table 4.4). However, the students believe that prior knowledge sometimes enable them to read the text quickly with mean (2.98), understand the text better with mean (2.96) and overcome limited linguistic knowledge with mean (2.61) which were decreased below mean and/or median point 3.

In sum the overall background knowledge mean and/or median score of students' perceptions about the role of prior knowledge of a text's topic for reading comprehension revealed that students believe that prior knowledge sometimes enable them to comprehend what they read in EFL with mean of 3.09 and median 3 and range 4 and standard deviation (. 46). Thus, the result indicated that the students were fairly aware of the role of prior knowledge of a text's topic for reading comprehension as the mean and/or median showed sometimes and as the mean/median didn't indicate the higher and the highest scales 'Usually' and 'Always' respectively.

In section two, students' motivation to reading was examined using Motivation for Reading Questionnaire (MRQ) as motivation absolutely affects their reading; it means that students with stronger reading motivation can be expected to read and comprehend more and are likely to be successful in their academics. Table 4.5 and Table 4.6 presented the results of the questionnaire. The tables presented the mean and/or median and std. deviation and /or range result of 114 deaf students responses under each of the eight intrinsic motivation items and seven extrinsic motivation items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always) respectively. Besides, in the last rows the tables presented the total mean and standard deviation for the constructs under investigation, which is equal to transformed variable in SPSS of the eight and seven items mentioned above.

Table 4.5: Descriptive statistics of deaf students' intrinsic motivation to reading

No	Items	Median	Mean	Range	SD
1	If I am reading about an interesting topic in a material written in English, I sometimes lose track of time.	3	2.98	4	1.36
2	I like reading to learn new information about topics that interest me.	4	3.51	4	1.38
3	I like to read materials written in English to learn about the English speaking community.	4	3.79	4	1.23
4	I like reading hard and challenging books.	3	2.88	4	1.35
5	I don't like reading something when the words are too difficult.	4	3.74	4	1.37
6	I like reading when the questions in the books make me think.	4	3.67	4	1.16
7	I always do my reading work exactly as the teacher wants it.	4	3.51	4	1.41
8	I like being the only one who knows an answer in something we read.	3	3.21	4	1.40
	Total	3	3.4	4	.62

Table 4.5 summarizes the results of the first sub-scale of motivation for reading, intrinsic motivation. The result revealed that on none of the items the deaf students responded the highest intrinsic motivation scale, always. However, on the majority of the intrinsic motivation items they responded on the expected mean and median point 3.00. Accordingly, for items stated "I like to read materials written in English to learn about the English speaking community (M = 3.79, SD = 1.23); I don't like reading something when the words are too difficult (m = 3.74, SD = 1.37); I like it when the questions in the books make me think (M = 3.67, SD = 1.16); I read to learn new information about topics that interest me and I always do my reading work exactly as the teacher wants it (M= 3.51, SD = 1.38 and 1.41 respectively) and I like being the only one who knows an answer in something we read (M = 3.21, SD = 1.40). On the other hand, the result revealed that deaf students responded below the mean and median point 3.00 for two

of the items stated “I like hard, challenging books (M = 2.88, SD = 1.35) and if I am reading about an interesting topic in a material written in English, I sometimes lose track of time (M = 2.98, SD = 1.36)” . In sum the result revealed that deaf students were sometimes intrinsically motivated to reading with (M = 3.4 and SD = .62).

Table 4.6: Descriptive statistics of deaf students’ extrinsic motivation to reading

No	Items	Median	Mean	Range	Standard Deviation
1	Others ask me about my reading grade.	3	2.73	4	1.29
2	I look forward to find out my reading grade.	4	3.41	4	1.25
3	I am happy when someone recognizes my reading.	3	3.04	4	1.44
4	Others sometimes tell me I am a good reader.	3	3.31	4	1.25
5	I like having the teacher say I read well.	4	3.44	4	1.39
6	I like to get compliments for my reading.	4	3.46	4	1.45
7	It is important for me to see my name on a list of good readers.	4	3.4	4	1.52
	Total	3	3. 25	4	.84

Table 4.6 summarizes the results of the second sub-scale of motivation for reading, extrinsic motivation. The result revealed that on none of the items the deaf students responded above the expected mean point 3.00. However, they responded the expected mean point 3.00, which means ‘sometimes’ for items ‘I like to get compliments for my reading (M = 3.46, SD = 1.45); I like having the teacher say I read well (M = 3.44, SD = 1.39); I look forward to finding out my reading grade (M = 3.41, SD = 1.25); It is important for me to see my name on a list of good readers (M = 3.4, SD = 1.52) and others sometimes tell me I am a good reader and I am happy when someone recognizes my reading (M = 3.31, SD = 1.25) respectively. Besides, the result revealed that on the majority or four items of extrinsic motivation below mean result 3.00, which mean the students occasionally or never have behaviors of extrinsic motivation. In total the result revealed that deaf students were sometimes extrinsically motivated to reading with (M =3.25 and SD = .84).

Generally, the mean results on the motivation to read EFL questionnaire ranged from minimum 2.73 to maximum 3.79 with overall mean = 3.32 and Std. deviation = .73 for the total deaf participants. Thus, the result revealed that deaf students were sometimes motivated to read EFL.

In section three Cognitive Awareness of Reading Strategies Inventory (CARSI; Mokhtari & Reichard, 2002) was employed to check whether the deaf students employed the different reading strategies and techniques or not during reading comprehension. This was because reading strategies and techniques are helpful and enable the reader to comprehend a reading text effectively and easily. Table 4.7 to table 4.14 presented the results of the CARSI from the subscales reading strategies, global, problem solving and support reading strategies to overall reading strategies.

Table 4.7 Descriptive statistics of Global Reading Strategies raw score

Strategies	**N**	**Minimum**	**Maximum**	**Sum**	**Mean**	**Std. Deviation**
Global reading strategies	114	2.31	4.31	358.15	3.14	.43

The table 4.7 above presented the raw score minimum, maximum, mean and std. deviation result of 114 deaf students responses under thirteen Global strategies items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Accordingly, the raw score of the Global Strategy subscale mean ranged from 2.31 to 4.31 (M = 3.14, SD = .43) with the majority of the sample, 90 (78.9%) reporting medium level use of Global Strategies. Low and high level usage of Global strategies were reported by 10 (8.7%) and 14 (12.2%) of the student sample, respectively.

Table 4.8 Descriptive statistics of Problem – Solving Reading Strategies raw score

Strategies	**N**	**Minimum**	**Maximum**	**Sum**	**Mean**	**Std. Deviation**
Problem- solving reading strategies	114	1.75	4.25	356	3.12	.52

The table 4.8 above presented the raw score minimum, maximum, mean and std. deviation result of 114 deaf students responses under eight Problem-solving reading strategies items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Accordingly, the raw score of the Problem-solving reading strategy subscale mean ranged from 1.75 to 4.25 (M = 3.12, SD = .52) with the majority of the sample, 76 (66.6%) reporting medium level use of Support strategies. Low and high level usage of Problem-solving reading strategies were reported by 10 (8.7%) and 28 (24.5%) of the student sample, respectively.

Table 4.9 Descriptive statistics of Support Reading Strategies raw score

Strategies	**N**	**Minimum**	**Maximum**	**Sum**	**Mean**	**Std. Deviation**
Support reading strategies	114	2.33	4.56	376.9	3.30	.50

Table 4.9 above presented the raw score minimum, maximum, mean and std. deviation result of 114 deaf students responses under nine Support reading strategies items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Accordingly, the raw score of the Support reading strategy subscale mean ranged from 2.33 to 4.56 (M = 3.30, SD = .50) with the majority of the sample, 74 (64.9%) reporting medium level use of Support reading strategies. Low and high level usage of Support reading strategies were reported by 2 (1.7%) and 38 (24.5%) of the student sample, respectively.

Table 4.10 Descriptive statistics of Overall Reading Strategies raw score

Strategies	**N**	**Minimum**	**Maximum**	**Sum**	**Mean**	**Std. Deviation**
Overall reading strategies	114	2.40	4.10	363	3.18	.38

Table 4.9 above presented the raw score minimum, maximum, mean and std. deviation result of 114 deaf students responses under thirty Overall reading strategies items for five point likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Accordingly, the raw score of the Overall reading strategy subscale mean ranged from 2.40 to 4.10 (M = 3.18, SD = .38) with the majority of the sample, 90 (78.9%) reporting medium level use of

Overall reading strategies. Low and high level usage of Overall reading strategies were reported by 2 (1.7%) and 22 (19.2%) of the student sample, respectively.

4.2.3 Research Question 4: Is there relationship between the factors that affect deaf students EFL reading and their reading comprehension level?

The fourth research question examined the correlation between reading comprehension and each of the students' related factors that affect their reading comprehension, predictor variables. The first segment of the fourth research question examined the correlation between background knowledge (M = 3.09, SD = .46) and reading comprehension ability (M = 42, SD = 20).

A Shapiro Wilk's Test (p = .090) and a visual inspection of the histograms, normal Q-Q plots and box plots showed that the background knowledge scores were normally distributed. A skewness of .188 (SE = .226) and a kurtosis of - .193 (SE = .449) were observed. Although a log transformation was made, the background knowledge scores were still normally distributed. Thus, a parametric test statistics, the pearson's r correlation coefficient test, was conducted since the background knowledge scores were normally distributed. The pearson's r correlation coefficient revealed that there was a modest positive significant correlation between background knowledge and reading comprehension ability, with pearson's r = .243 and p = .009. Table 4.11 illustrates the results of the analysis.

Table 4.11: Pearson r Coefficients for Reading comprehension and Background knowledge

Correlations

		Background knowledge overall score mean	Adapted MICO Reading Comprehension test
Background knowledge overall score mean	Pearson Correlation	1	.243**
	Sig. (2-tailed)		.009
	N	114	114
Adapted MICO Reading Comprehension test	Pearson Correlation	.243**	1
	Sig. (2-tailed)	.009	
	N	114	114

**. Correlation is significant at the 0.01 level (2-tailed).

The second segment of the fourth research question examined the correlation between motivation to read and reading comprehension ability (M = 42, SD = 20). The correlation of motivation to read yielded three variables, Intrinsic motivation to read (M = 3.4, SD = .62), Extrinsic motivation to read (M = 3.25, SD = .84) and Overall motivation to read (M =3.32 and SD = .73).

A Shapiro Wilk's Test (p = .001, .034 and .024) and a visual inspection of the histograms, normal Q-Q plots and box plots showed that all the motivation to read variables, Intrinsic motivation to read, Extrinsic motivation to read and Overall motivation to read scores were not normally distributed. A skewness of -.561 (SE = .226) and a kurtosis of .220 (SE = .449) for Intrinsic motivation to read, a skewness of -.358 (SE = .226) and a kurtosis of -.383 (SE = .449) for Extrinsic motivation to read and a skewness of -.352 (SE = .226) and a kurtosis of -.142 (SE = .449) for Overall motivation to read were observed. Although a log transformation was made, the motivation to read variables scores were not still normally distributed. Thus, a non-parametric test statistics, the Spearman's rho order correlation coefficient test, was conducted since the motivation to read variables scores were not normally distributed.

The Spearman's correlation coefficient revealed that there was a modest positive significant correlation between Intrinsic motivation to read and reading comprehension ability, with Spearman's correlation coefficient = .196 and p = .037. Similarly, there was a modest positive significant correlation between Overall motivation to read and reading comprehension ability, with Spearman's correlation coefficient = .282 and p = .002. However, there was a moderate positive significant correlation between Extrinsic motivation to read and reading comprehension ability, with Spearman's correlation coefficient = .324 and p = .000. Table 4.12 illustrates the results of the analysis.

Table 4.12: Spearman's rho Coefficients for Reading comprehension and Motivation to reading sub scales

Correlations

			Adapted MICO Reading Comprehension test
Spearman's rho	Intrinsic motivation overall score mean	Correlation Coefficient	.196*
		Sig. (2-tailed)	.037
		N	114
	Extrinsic motivation overall score mean	Correlation Coefficient	.324**
		Sig. (2-tailed)	.000
		N	114
	Overall motivation to read	Correlation Coefficient	. .282**
		Sig. (2-tailed)	.002
		N	114

*. Correlation is significant at the 0.05 level (2-tailed).

The third segment of the fourth research question examined the correlation between reading strategies use and reading comprehension ability (M = 42, SD = 20). The correlation of reading strategies use yielded four variables, Global reading strategies use (M = 3.14, SD = .43), Problem-solving reading strategies use (M = 3.12, SD = .52), Support reading strategies use (M =3.30, SD = .50) and Overall reading strategies use (M = 3.18, SD = .38).

A Shapiro Wilk's Test (p = .029, .032, .004 and .001) and a visual inspection of the histograms, normal Q-Q plots and box plots showed that all the reading strategies use variables, Global reading strategies use , Problem-solving reading strategies use, Support reading strategies use and Overall reading strategies use scores were not normally distributed. A skewness of .424 (SE = .226) and a kurtosis of -.089 (SE = .449) for Global reading strategies use, a skewness of .088 (SE = .226) and a kurtosis of -.120 (SE = .449) for Problem-solving reading strategies use, a skewness of .274 (SE = .226) and a kurtosis of -.691 (SE = .449) Support reading strategies use and a skewness of .536 (SE = .226) and a kurtosis of -.393 (SE = .449) Overall reading strategies

use were observed. Although a log transformation was made, all the reading strategies use variables scores were not still normally distributed. Thus, a non-parametric test statistics, the Spearman's roh order correlation coefficient test, was conducted.

The Spearman's correlation coefficient revealed that there were a modest positive not significant correlation between Global reading strategies use and reading comprehension ability with Spearman's correlation coefficient = .181 and p = .054. Similarly, there were a modest positive not significant correlation between Support reading strategies and reading comprehension ability with Spearman's correlation coefficient = .163 and p = .083. However, there was a moderate positive significant correlation between Overall reading strategies use and reading comprehension ability with Spearman's correlation coefficient = .199 and p = .034 and there were also a very strong positive significant correlation between Problem-solving reading strategies use and reading comprehension ability with Spearman's correlation coefficient = .93 and p = .039. Table 4.13 illustrates the results of the analysis.

Table 4.13: Spearman's rho Coefficients for Reading comprehension and reading strategies sub scales

Correlations

			Adapted MICO Reading Comprehension test
Spearman's rho	Global reading strategies overall mean	Correlation Coefficient	.181
		Sig. (2-tailed)	.054
		N	114
	Problem-solving reading strategies overall mean	Correlation Coefficient	.193*
		Sig. (2-tailed)	.039
		N	114
	Support reading strategies overall mean	Correlation Coefficient	.163
		Sig. (2-tailed)	.083
		N	114
	Overall reading strategies overall mean	Correlation Coefficient	.199*
		Sig. (2-tailed)	.034
		N	114

4.2.4 **Research Question 5: To what extent does each of the factors that affect deaf students EFL reading comprehension predict their reading comprehension level?**

The fifth research question explored the predictive power of the full set of the identified test variables of reading comprehension ability. A multiple linear regression analysis was conducted to determine if reading comprehension ability could be predicted from the full set of independent variables examined in this study. The assumptions for a multiple linear regression were explored to ensure they were met prior to analysis. Visual examination of a P-P plot of regression standardized residual and histogram suggested that assumptions of normality of residuals and linearity were reasonably met. The Durbin-Watson statistic, used to evaluate independence of errors, was 1.57, providing evidence that the assumption of independence was met. The assumption of homoscedasticity was met after visual examination of a plot of the standardized residuals (the errors) by the regression standardized predicted value, because the spread of residuals appeared fairly constant over the range of values of the independent variables. Finally, a preliminary multiple regression was computed to ensure that the assumption of multicollinearity was not violated.

A multiple regression analysis was conducted with the following predictor variables: background knowledge, motivation to read (Intrinsic motivation to read, Extrinsic motivation to read and motivation to read overall) and reading strategies use (Global, Support, Problem-Solving, and Total strategy use), with reading comprehension as the outcome (dependent) variable. A multiple regression analysis using a backward elimination method was chosen because it examines the complete set of predictors in its initial model. Subsequent models are then created by elimination of predictors that do not significantly contribute to the outcome variable. In this instance, four models were created. Table 8 illustrates the summary results of the multiple regression analysis.

The initial model of the regression included all variables with the exception of Global reading strategy use. The model was significant with $R2 = .125$, $F (7, 106) = 2.159$, $p < .05$. Particularly, $R2 = .125$ suggests that our predictors are modest at predicting reading comprehension. Within this model, the effect sizes for the Extrinsic motivation (Beta =.286), Intrinsic motivation (Beta -.157), Background knowledge (Beta .135) and Problem-solving strategies (Beta .122) were modest and statistically not significant.

Poor effect sizes were found for motivation to read overall (Beta .048), Support reading strategies (Beta -.038) and Overall reading strategies (Beta -.034).

Table 4.14: The first model of liner regression analyses for independent variables predicting reading comprehension

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.498	16.241		.646	.519
	Background knowledge overall score mean	5.801	5.554	.135	1.04	.299
	Intrinsic motivation overall score mean	-5.070	7.669	-.157	-.661	.510
	Extrinsic motivation overall score mean	6.721	6.730	.286	.999	.320
	Motivation overall score mean	1.513	13.400	.048	.113	.910
	Problem-solving reading strategies overall mean	4.658	6.107	.122	.763	.447
	Support reading strategies overall mean	-1.506	6.667	-.038	-.226	.822
	Overall reading strategies mean	-1.744	13.317	-.034	-.131	.896

a. Dependent Variable: Adapted MICO Reading Comprehension test

The second model which excluded the variable of Overall reading strategies was significant $R^2 = .125$, $F(6, 107) = 2.539$, $p < .05$. Similarly, the $R^2 = .125$ suggests that our predictors are modest at predicting reading comprehension. Within this model, the effect sizes for the Extrinsic motivation (Beta =.286), Intrinsic motivation (Beta -.162), Background knowledge (Beta .130) and Problem-solving strategies (Beta .108) were modest and statistically not significant. Poor effect sizes were found for motivation to read overall (Beta .047) and Support reading strategies (Beta -.053).

Table 4.15: The second model of liner regression analyses for independent variables predicting reading comprehension

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.974	15.669		.637	.526
	Background knowledge overall score mean	5.597	5.308	.130	1.055	.294
	Intrinsic motivation overall score mean	-5.227	7.540	-.162	-.693	.490
	Extrinsic motivation overall score mean	6.743	6.696	.286	1.007	.316
	Motivation overall score mean	1.466	13.334	.047	.110	.913
	Problem-solving reading strategies overall mean	4.106	4.400	.108	.933	.353
	Support reading strategies overall mean	-2.129	4.648	-.053	-.458	.648

a. Dependent Variable: Adapted MICO Reading Comprehension test

The third model which excluded the variable of Motivation overall was significant $R^2 = .125$, $F(5, 108) = 2.539$, $p < .05$. Similarly, the $R^2 = .125$ suggests that our predictors are modest at predicting reading comprehension. Within this model, the effect sizes for the Extrinsic motivation (Beta =.314), Intrinsic motivation (Beta -.141), Background knowledge (Beta .132) and Problem-solving strategies (Beta .107) were modest and statistically not significant except Extrinsic motivation statistically significant. Poor effect sizes were found for Support reading strategies (Beta -.054).

Table 4.16: The third model of liner regression analyses for independent variables predicting reading comprehension

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	10.356	15.209		.681	.497
	Background knowledge overall score mean	5.676	5.235	.132	1.084	.281
	Intrinsic motivation overall score mean	-4.531	4.080	-.141	-1.111	.269
	Extrinsic motivation overall score mean	7.400	3.014	.314	2.455	.016
	Problem-solving reading strategies overall mean	4.061	4.361	.107	.931	.354
	Support reading strategies overall mean	-2.154	4.621	-.054	-.466	.642

a. Dependent Variable: Adapted MICO Reading Comprehension test

The fourth model which excluded the variable of support reading strategies use was significant $R^2 = .123$, $F (4, 109) = 3.813$, $p < .05$. Similarly, the $R^2 = .123$ suggests that our predictors are modest at predicting reading comprehension. Within this model, the effect sizes for the Extrinsic motivation (Beta =.312), Intrinsic motivation (Beta -.137) and Background knowledge (Beta .116) were modest and statistically not significant except Extrinsic motivation statistically significant. Poor effect sizes were found for Problem-solving strategies (Beta .083).

Table 4.17: The fourth model of liner regression analyses for independent variables predicting reading comprehension

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.021	14.308		.561	.576
	Background knowledge overall score mean	4.965	4.990	.116	.995	.322
	Intrinsic motivation overall score mean	-4.409	4.057	-.137	-1.087	.280
	Extrinsic motivation overall score mean	7.350	3.001	.312	2.449	.016
	Problem-solving reading strategies overall mean	3.151	3.885	.083	.811	.419

a. Dependent Variable: Adapted MICO Reading Comprehension test

The final model which included the variables of Background knowledge, Intrinsic motivation and Extrinsic motivation were significant $R^2 = .117$, $F (3, 110) = 4.880$, $p < .05$. Like all the previous models, the $R^2 = .117$ suggests that our predictors are modest at predicting reading comprehension. The model indicated that Extrinsic motivation was the most important predictor of reading comprehension with ($\beta = .333$, $t = 3.674$ and $p = 0.009$). The second important predictor of reading comprehension was Background knowledge with ($\beta = .144$, $t = 1.308$ and $p = .019$). The third important predictor of reading comprehension was Intrinsic motivation with ($\beta = -.143$, $t = -1.144$ and $p = .025$).

Table 4.18: The final model of liner regression analyses for independent variables predicting reading comprehension

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.137	12.823		1.024	.308
	Background knowledge overall score mean	6.204	4.743	.144	1.308	.019
	Intrinsic motivation overall score mean	-4.623	4.042	-.143	-1.144	.025
	Extrinsic motivation overall score mean	7.846	2.934	.333	2.674	.009

a. Dependent Variable: Adapted MICO Reading Comprehension test

Section 2: Qualitative data analysis

4.2.5 Research Question 3: What are EFL teachers related factors that affect deaf students' reading comprehension?

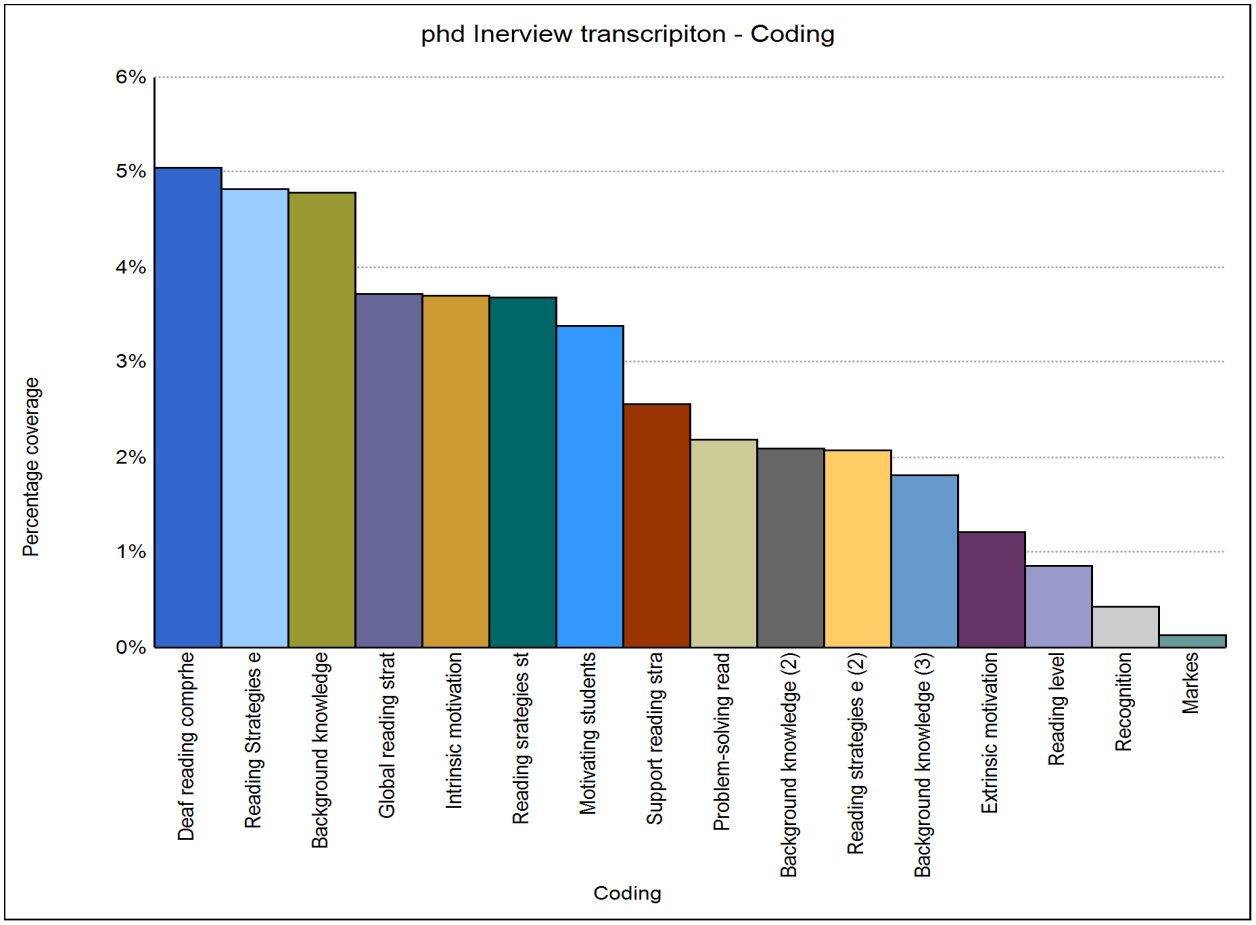
In section one of this chapter, four research questions focused on the quantitative findings of the study were presented and analyzed. However, this section two would present the findings and interpretations of the results in the qualitative component of the study. As discussed in the third chapter, qualitative data were collected from four EFL teachers using semi-structured interview. These data were used to address the research question 3, EFL teachers related factors that affect deaf students reading comprehension. Analysis of the interview data was done using Nvivo 12 pro, qualitative data analysis software.

The presentation and analysis of the data followed order of the interview guide questions and the Nvivo 12 pro parent and child nodes of the coding. Therefore, firstly, EFL teachers' perception about the role of deaf students' background knowledge to comprehend what they read in EFL was dealt. Secondly, EFL teachers' opinion about deaf students' motivation to read was examined.

Thirdly, how EFL teachers rate the reading comprehension level of deaf students (high, average or low) was presented. Finally, whether EFL teachers have taught the different reading strategies for their deaf students and which of the strategies they have emphasized on were presented. Figure 4.1 illustrates the coding.

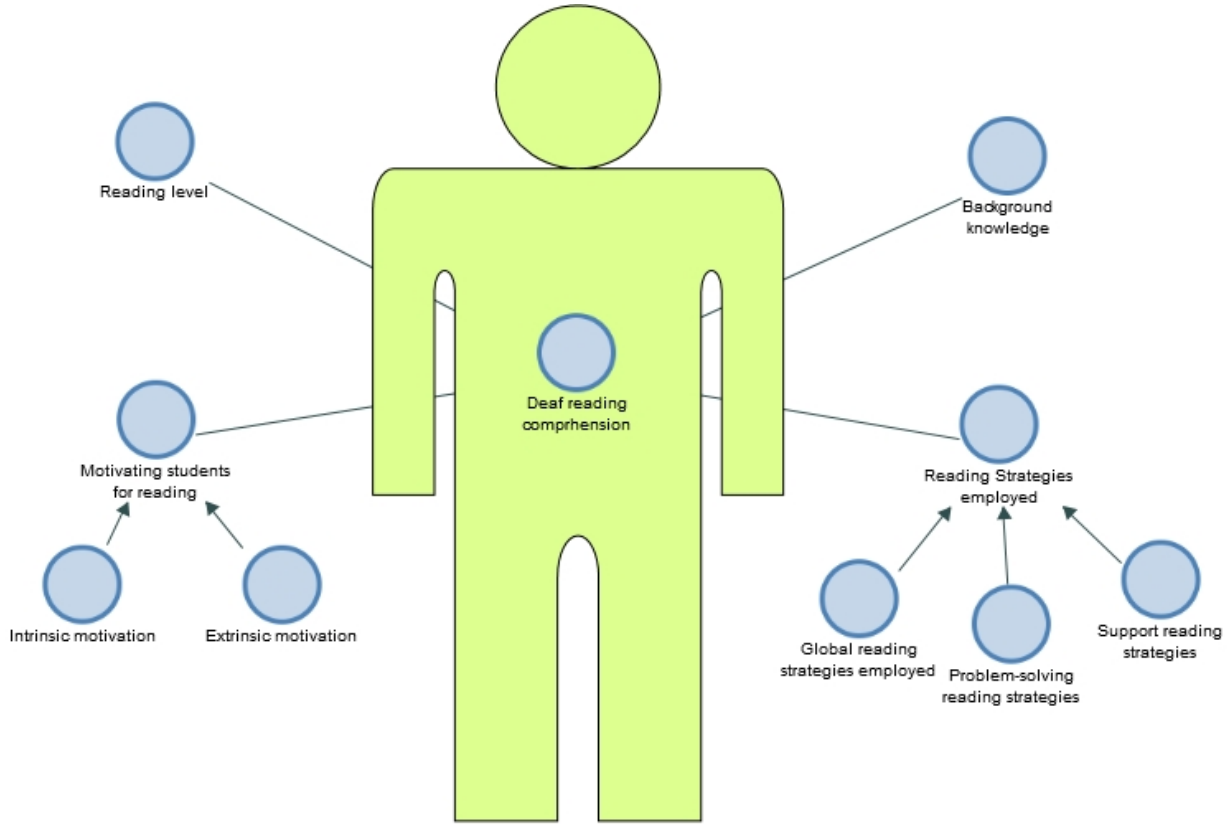
The EFL teachers' interview was recorded, transcribed from audio file to text, coded into nodes and put into different maps and theoretical models. Particularly, the coding indicated the 16 parent and child nodes which later reduced to four parent nodes 11 child nodes with the majority (5%) of the text reference coverage showing reading comprehension ability, around (4.8%) of the text reference coverage showing reading strategies, around (4.7%) of the text reference coverage showing background knowledge. Least around (0.1%) of the text reference coverage showing marks/grade (extrinsic motivation). Figure 4.11 illustrates the coding verses percentage of the content coverage bar graph of the interview data.

Figure 4.1: The coding verses percentage of the content coverage bar graph of the interview data



In addition to the coding bar graph, the Nvivo 12 Pro qualitative data analysis software produced theoretical map of the problems encountered by deaf or hard of hearing students in comprehending what they read in EFL which consisted four themes or parent nodes of the study with their respective child nodes. Figure 4.2 illustrates the theoretical map of the study from the interview data.

Figure 4.2 Theoretical map of the study from the interview data



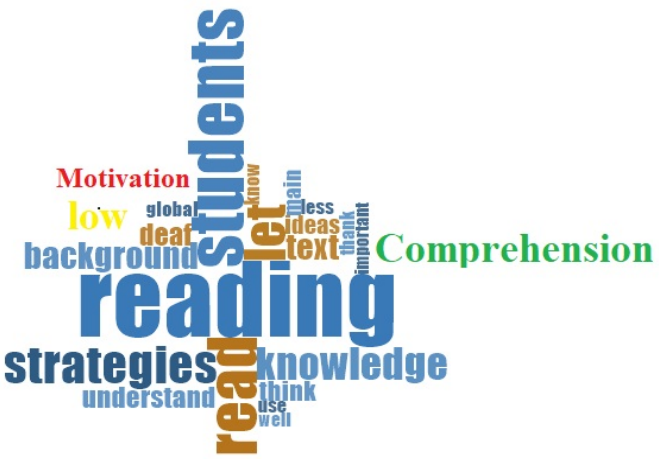
1. Parent node 1: Deaf reading comprehension ability

The researcher had designed this section to contribute response for the interview question that asks "how EFL teachers' rate the reading comprehension level of deaf student (high, average or low)" as the EFL teachers' perception of their learners reading comprehension ability level was very crucial in guiding the teachers regarding the choice of strategies to select/use.

The teachers unfortunately had low opinion regarding the learners with deafness; given that they were qualified by the teachers as slow readers; not readily able to read. In line with this the teachers all cried out on lack of instructional materials to support deaf reading comprehension like hearing aids, texts supplemented by visual materials and texts with simple sentences. However, some of which EFL teachers could have made them using locally available materials (often in the environment-communities), they attributed their low perception and the d/hh learners low performance in reading comprehension to d/hh students only. The researcher was tempted to think that the teachers were either not committed to their work though it would not be possible to have all the teachers were not committed or were just ignorant of what they should have done as creative teachers. On the other hand, reading comprehension ability in this study was the sum total effect of deaf learners' background knowledge of a text being read, deaf students' motivation to read and the different reading strategies deaf students employ in reading and these constructs were also indicated bigger and bolder using word cloud output of the qualitative data analysis software, Nvivo 12 pro. Figure 4.3 illustrates deaf reading comprehension ability in word cloud of the interview data.

Key: Word clouds (also known as text clouds or tag clouds) work in a simple way: the more a specific word appears in a source of textual data (such as a speech, blog post, or database), the bigger and bolder it appears in the word cloud. A word cloud is a collection, or cluster, of words depicted in different sizes.

Figure 4.3: Word cloud of deaf reading comprehension ability



Regardless of the word cloud, EFL teachers' perception regarding the reading comprehension ability revealed that all the EFL teachers were in agreement that deaf learners took long time to read and comprehend certain text. TA boldly claimed that deaf learners are low readers. Like TA, TD also replied, "Their achievements in reading activities are low. I do not know whether this indicates their level of reading comprehension." It is believed that deaf students took long to pick anything from what they are reading just because of their deafness (disability). However, it is not identified that this slow learning in turn affects their reading achievements.

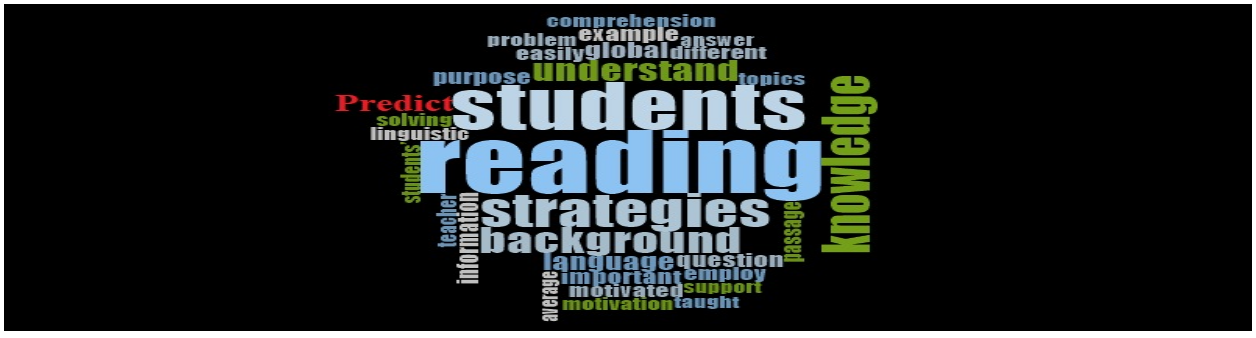
Similarly, TB and TC explained that d/hh learners were identified as slow learner or read and comprehend less than their hearing counter parts. Particularly, TC explained:

> In my opinion, D/HH students are slow learners. This is not because of their learning ability or effort rather this can be attributed to the nature of their learning i.e especially the deprivation of their receptive skill (listening). As we know reading is dependent on exposure to listening of a word or a language in general and limited or no access to spoken language put them ... d/hh learners lag behind their hearing peers in reading skills. Consequently, d/hh students perform less in reading than their hearing peers.

2. Parent node 2: Role of background knowledge to comprehend what deaf students read in EFL

The interview data under the theme of the role of background knowledge to comprehend what deaf students read in EFL revealed that background knowledge plays huge role while teaching reading comprehension.

Figure 4.4: Word cloud of the role of background knowledge to comprehend what deaf students read in EFL



Evidence from the interviewed EFL teachers word cloud showed that background knowledge of a given EFL text helped deaf students to read, recall, understand and predict a text easily as these constructs appeared bigger and bolder than the other construct, solving linguistics problems. Therefore, regarding background knowledge role in solving linguistics problems, the result indicated less awareness of it. In line with the purpose of the specific item of the study, whether background knowledge facilitates reading comprehension, all the four EFL teachers responded that background knowledge is important to comprehend what students read in English. Particularly, TC reported:

> Yes, I think so. Deaf students' background knowledge helps them to understand, recall, read and predict a passage they read in English easily and quickly. For example, they raise their hands eagerly to read passages with topics they have hints… Even they distribute the class saying teacher… teacher…. That's why I said yes, I think so.

Furthermore, TB explained the other benefit of students' background knowledge. He said that it is important for linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge. For example, what we do as a teacher when we teach even grammar and etc. with context it is to help learners to understand the linguistic structure easily. So, unless they have background knowledge, not only comprehending reading passage but also comprehending a single grammatical structure puts challenge. So, it is very important to solve such kind of linguistic problems.

On contrary to these, three of the EFL teachers were not sure about background knowledge contribution for linking the ideas in the text easily, focusing on main ideas and overcoming limited linguistic knowledge. Particularly, TA said that "…Actually, my students guess the main ideas when reading topics related to our culture but I do not know about the other issues."

3. Parent node 3: Motivation to read

Regarding deaf students' motivation to read, all the EFL teachers said that the concept needs some clarification. However, after the researcher made the two constructs under motivation for reading, intrinsic and extrinsic motivation, brief with the items under each construct. Intrinsic motivation is deaf students' internal desire (curiosity, involvement and readiness to face challenges) and extrinsic motivation is deaf students' external factors. For instance: competition,

compliance, recognition for reading, intention to obtain good grades and social reasons for reading. TA replied that "eee… i can say something about their interest to read….Hmm…they like to read short passages…contents like sport and technology." The teachers also said that deaf students face challenges and do activities well when they only read texts with topics mentioned above which means on topics they like. Thus, the students were fairly intrinsically motivated I can say for TA. Similarly, TC responded:

> ….deaf students outperform on activities from reading passages of Ethiopian culture than foreign culture passages though he was not sure whether this is indicator of students internal motivation or not.

However, TB and TD reacted differently regarding deaf students' motivation to read. Thus, deaf students were extrinsically motivated as well according to TB responses. TB replied:

> By the way, you have come to interview me this research while I was bothering how to motivate my students for reading, I was using applying different ways methods to motivate them. They are less interested in reading. When I teach them grammar, they are interested. When I give them reading activities, they are less interested. They are less motivated even when I give them assignment, reading assignments; most of them come to class without reading. So what I try to motivate them is I tell them the importance of reading. I tell them that reading helps them to get information, new information and increase their vocabulary knowledge, etcetera. I advise them by giving them advice. And besides, I divide the text, reading passage, into paragraph and divide into groups so that they share it. I try to simplify the passage and use the different methods to motivate them.

Probing TB whether deaf students are intrinsically or extrinsically motivated revealed:

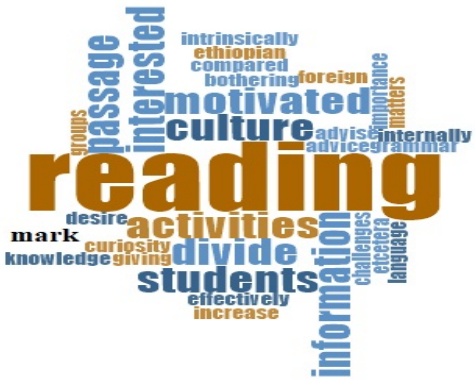
> No, they are not. One reason for their less internal motivation is that as they mentioned to me, they lack knowledge of new words, they....some meaning block for them. Besides, texts' titles are not interesting. Full of facts not creative writings...story. Instead of that, for example, you have topics passages that they get in other subjects. For example: computer science, Eretria. The titles of reading passage

are not interesting. You know facts, full of facts. So I have to use my own motivation. External motivation they need.

Moreover, TC and TD said that deaf students like marks but recognitions, compliments and competition with others were none of their businesses. Therefore, both of them said that they gave marks to those who read in order to initiate others to read. According to the teachers of deaf, reading refers signing for a class the concept of a given reading passage and accomplishing the different activities from the passage.

In addition to the EFL teachers verbatim, the word cloud also revealed that intrinsic motivation constructs : curiosity, involvement and readiness to face challenges appeared bigger, bolder and more frequently than extrinsic motivation constructs: deaf: competition, compliance, recognition for reading, intention to obtain good grades (score) and social reasons for reading.

Figure 4.5: Word cloud of deaf students' motivation to read



4. Parent node 4: Reading strategies

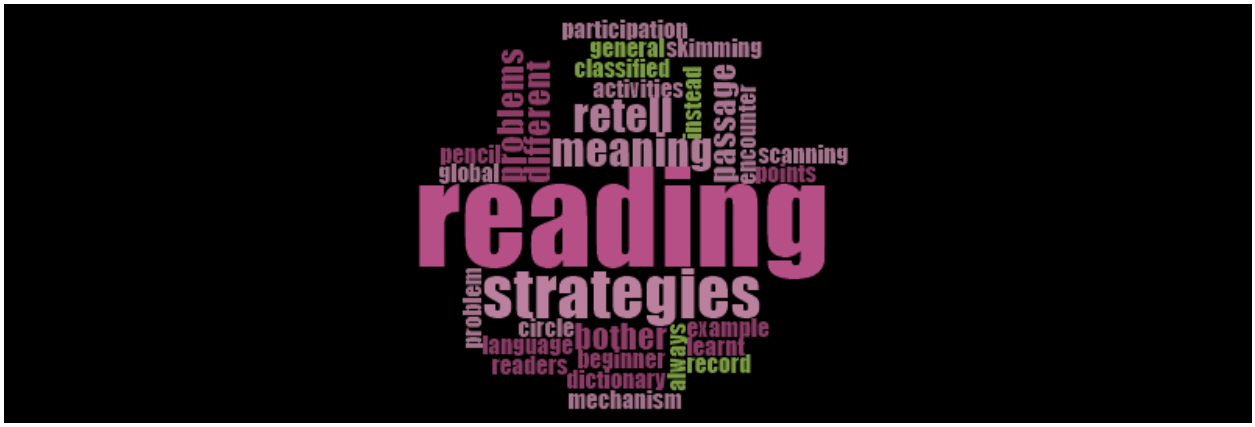
Concerning reading strategies use, the interview result revealed that all the teachers had employed different reading strategies. Particularly, they explained that global reading strategies such as: letting students have a purpose in mind when they read and letting students decide what to read closely and what to ignore have got emphasis. Thus, the study presented one of the EFL teachers', TD's, direct reflection below. He said:

> Well, I help them develop a sense of purpose. Related to global reading skills, I give them a purpose I allow them to read and grasp the key ideas and points of the passage.

So, I employ global reading strategies. I also employ background knowledge if they have background knowledge related to the topic they read. Regarding the second problem-solving strategies I let my students read slowly but carefully to be sure they understand what they are reading. Anyways, in reading, they encounter problems while reading. Similarly, I employ support reading strategies such as: note taking and summarizing. I think, I incline to the global reading strategies.

The word cloud of reading strategies in Figure 4.6 also was revealed that EFL teachers were employing different reading strategies. For instance: developing a sense of purpose to read and grasp the key ideas and points, activating and employing background knowledge, reading slowly but carefully, note taking and summarizing.

Figure 4.6: Word cloud of reading strategies



However, TA and TC reported that their students mastered Support reading strategies, particularly note taking and use this strategy in their day-to-day activities. Whereas, TB and TD reflected that their students mastered global reading strategies and used them in their day-to-day activities.

Chapter Five

5. Discussion of the Findings

Introduction

Chapter 4 presented the analyses and interpretations of the data collected through reading comprehension test, structured questionnaire and semi-structured interview. Since the data gathered via reading comprehension test and structured questionnaire were quantitative, they were analyzed using quantitative techniques of percentage, mean, standard deviation, range , Persons' r correlation coefficient, Spearman's correlation coefficient and linear regression analysis. On the other hand, the data collected through semi-structured interview required qualitative analysis which employed Nvivo 12 Pro qualitative data analysis software for the transcription of audio file to text, coding into nodes and exploring different maps and theoretical models. The analyses and interpretations in both the quantitative and qualitative components of the study were presented in five research questions under the labels of reading comprehension ability, background knowledge, motivation to read and reading strategies use variables.

This chapter built on the preceding chapters by discussing the findings of the study in connection with the research questions and the relevant literature. That is, it reiterated and synthesized the major findings and backed them up with support literature. Discussion of both the Quantitative findings and the qualitative findings of this study included findings regarding reading comprehension ability, background knowledge, motivation to read and reading strategies use. It also included the relationships that exist between the dependent and independent variables and the predictive capacity of each of the independent variables over the dependent variables.

5.1. Discussion on the findings of d/hh students reading comprehension ability

Students cannot engage in reading comprehension unless they have adequate reading comprehension abilities to enable them to understand texts that are appropriate for their levels. Therefore, in conducting studies on reading comprehension among a certain group of students, it is useful to assess their reading comprehension ability levels. Accordingly, the reading comprehension ability levels of the participants of this study were assessed using adapted standardized diagnostic reading comprehension test called MICO, 2021.

The assessment revealed that deaf students in Hossana Mekane Eyesus School for the Deaf achieved a lower mean score (M = 42). This is a lower mean result and the students are leveled as struggling readers or frustrated readers, a reading comprehension score of below 60%. According to the parameter used in this study, Vivan (2017) there are three levels of reading comprehension categories: independent reader (a reading comprehension score of 90% and above), instructional reader (a reading comprehension score of 60% to 89%) and the frustrated reader (a struggling reader) (a reading comprehension score of below 60%). Correspondingly, the finding is lower than the average result expected in many classroom and other types of achievement tests (average = 50%). The interview result also revealed that the EFL teachers unfortunately had low opinion regarding the learners with deafness; given that they were qualified by the teachers as slow readers, not readily able to read.

These findings do speak to the overall low reading comprehension level of the sample d/hh students, which is consistent with the existing literature on d/hh populations worldwide (Luckner, 2008; Mayberry, 2000; Spencer & Marschark, 2010). In this case, it can be hard to expect these students to read more challenging texts and comprehend them sufficiently as comprehension is not only for language learning but also important for academic success in general. This in turn can hinder their involvement in reading of various texts for a variety of purposes. In relation to this it is worth to mention what has been noted by Hoffman and Wang (2010):

> Research in to the academic achievement of students who are deaf or hard of hearing often finds that the performance of many children in this population falls significantly below that of their typical hearing peers on many measures and across many domains.

Moreover, as reading material becomes increasingly difficult in higher grade levels, students without requisite skills of reading, will continue to exhibit lower reading comprehension scores (Paul, 2009). The result is the stagnation of their reading comprehension skills and their ability to fully engage in academic tasks. Under such conditions, d/hh students are at greater risk of becoming lost in a system which already has minimal expectation of these students because of the established literature documenting the low performance among d/hh students in general.

On the other hand, the continued low reading scores (struggling readers) found from grade 9 – grade 12 level (M = 52, 43, 38 and 18) respectively are a notable departure from what was expected in language learning: skill level in reading comprehension generally improves across grade level despite the noted challenges experienced by d/hh populations (Paul, 2009). However, the findings of this study indicated that these students have not been able to achieve any noticeable progression in their reading comprehension skills across grade levels.

Besides, what has been discussed so far, it is important to raise Ethiopian Early Grade Reading Assessment (EGRA). Though the EGRA is not a particular prior study on the reading comprehension ability of deaf or hard of hearing students to relate this study finding with, it also suggests that reading comprehension ability is low for Ethiopian primary school students. In 2010, a mother tongue EGRA was conducted with Grade 2 and Grade 3 pupils in six languages (Afan Oromo, Amharic, Harari, Sidama, Somali and Tigrigna) of the 11 administrative units (nine regions and two city administrations) in Ethiopia (Smith, Stone & Comings 2012:7). The assessment showed that only 5% of the pupils in the studied public schools achieved at or above the fluency benchmark (60 words per minute). The low mother tongue reading proficiency among these pupils can be an obstacle in their later reading achievement and reading habits in the English language since reading skills and habits can transfer from one language to another under certain conditions (Morvay 2015:26).

The EGRA study in Ethiopia was not confined to mother tongue literacy. In 2011, the Ministry of Education (MOE), in collaboration with the Teach English for Life Learning (TELL) Program, implemented a nationwide English EGRA baseline assessment. The assessment covered all the nine regions and the two city administrations (Addis Ababa and Dire Dawa) (Smith, Stone & Comings 2012:9-10). In the assessment, pupils who had completed Grades 2, 3 and 4 (N = 19,603) were tested. The results revealed that about two-thirds of the participants did not have the knowledge and skills expected of the minimum learning competencies of the curriculum for each grade. Based on this finding, the study concluded that English literacy is at least as poor as mother tongue literacy throughout Ethiopia. Thus, the pupils' low early grade EFL reading can result in poor reading ability in later grades which hampers their reading comprehension ability regardless of their respective disability.

Overall, the reading comprehension scores of d/hh students are an indication that the existing instructional practices in the development of necessary skills required for reading comprehension are not meeting the needs of all the students. The problem may lie with at an institutional or system wide level, wherein differences in instructional practices, resources, and teacher competence account for the lack of progression. Alternatively, the problem may lie at an individual level, wherein students have different instructional needs which are not being accommodated. Also, motivation may have played a role in the performance of students. The challenges struggling readers encounter may make any reading related task unpleasant, and attempts are usually made to avoid prolonging the activity (Salinger, 2003). This may not be a true representation of their skills. In all instances, it is imperative that the determination of the potential source of demonstrated reading comprehension levels represents an initial step in addressing the issue. This can only be adequately addressed through establishment of a systematic review of the existing practices and mechanisms for identification and intervention.

5.2 Discussion on deaf students related factors of EFL reading comprehension

5.2.1 Discussion on the findings of background knowledge

The overall background knowledge mean and/or median score of students' perceptions about the role of prior knowledge of a text's topic for reading comprehension revealed that students believe that prior knowledge sometimes enable them to comprehend what they read in EFL with (M = 3.09 and SD .46 and/or Median 3 and range 4). Thus, the result indicated that the students were fairly aware of the role of prior knowledge of a text's topic for reading comprehension as the mean and/or median showed sometimes and as the mean/median didn't indicate the higher and the highest scales 'Usually' and 'Always' respectively. Particularly, the statements related to background knowledge helps to relate text to their own prior knowledge, confirm predictions based on prior knowledge, focus on the main ideas and enable recall information easily came first with highest mean results, whereas the statements related to background knowledge helps to overcome limited linguistic knowledge came second with decreased mean result.

Evidence from the interviewed EFL teachers also showed that background knowledge plays huge role while they teach reading comprehension.

However, in line with the purpose of the specific research question of the study, whether background knowledge facilities reading comprehension, all the four EFL teachers believe that background knowledge is important to comprehend what students read in English. Particularly, TC reported:

> Yes, I think so. Deaf students' background knowledge helps them to understand, recall, read and predict a passage they read in English easily and quickly. For instance, they raise their hands eagerly to read passages with topics they have hints… Even they distribute the class saying teacher… teacher…. That's why I said yes, I think so.

These findings are supported by previous studies which showed that prior knowledge can enhance passage recall. Chiesi, Spillich, and Voss (1979) had adults rated as high or low in baseball knowledge recall a play-by-play account of a baseball game. They found that the recall of subjects rated as high in baseball knowledge were more coherent and that they preserved information important to the goals of the game in their recall, while the recall of subjects rated as low in baseball knowledge were more fragmented. In the Chiesi et al. study, high-knowledge subjects tended to recall information such as base hits, steals, and strikeouts more than low-knowledge subjects did, while low knowledge subjects tended to recall more incidental information, such as the size of the crowd than high-knowledge subjects did.

5.2.2 Discussion on the findings of motivation to read

As discussed in the literature review, motivation has a profound impact on students' reading comprehension. Obviously, motivation energizes students to engage and persevere in reading texts according to their purposes and choices. Likewise, since appropriately motivated students can create their own reading opportunities, they do not overly depend on their teachers. These students have a wide range of personal reasons for reading such as curiosity, involvement, social interchange and emotional satisfaction. In this study, reading motivation was treated into two dimensions, intrinsic motivation to read and extrinsic motivation to read. Intrinsic motivation to read refers internal desire to learn or read and does not have the need for external results (reading curiosity, reading challenge, reading efficacy).

Whereas, extrinsic motivation to read emphasizes external need to urge students to participate in learning or reading (reading for grades, recognition for reading, compliments and competition in reading).

With regard to intrinsic motivation to read sub-scale, the result revealed that on none of the items the deaf students responded the highest intrinsic motivation to read scale, always. However, on the majority of the intrinsic motivation to read items they responded on the expected mean and median point 3.00. In sum the result also revealed that deaf students were sometimes intrinsically motivated to read with (M = 3.4 and SD = .62). On the extrinsic motivation to read sub-scale, similarly the result revealed that on none of the items deaf students responded above the expected mean point 3.00. However, in sum the result revealed that deaf students were sometimes extrinsically motivated to read with (M =3.25 and SD = .84). The findings thus suggest that deaf students have nearly equal intrinsic motivation to read behaviors (reading curiosity, reading challenge, reading efficacy) and extrinsic motivation to read behaviors (reading for grades, recognition for reading, compliments and competition in reading).

The interview revealed that all the EFL teachers are in agreement with what the questionnaire revealed as well. For instance, regarding intrinsic motivation to read, TA replied that "Eee… I can say something about their interest to read….Hmm…they like to read short passages…contents like sport and technology." The teachers also said that deaf students face challenges and do activities well when they only read topics mentioned above which means on topics they like. Besides, the interview revealed that the students are extrinsically motivated to read as well. They said that deaf students like marks but recognitions, compliments and competition with others are none of their businesses. Therefore, all the teachers said that they give marks to those who read in order to initiate others to read. According to the teachers of deaf, reading refers signing for a class the concept of a given reading passage and accomplishing the different activities from the passage.

These are consistent with Komiyama (2013) investigation. The investigation found that, adult English for Academic Purpose (EAP) students' in the USA reading motivation had intrinsic to read and extrinsic to read dimensions.

From intrinsic motivation to read point of view, this means that they were better in curious reading (reading to quench one's curiosity to learn new things), face challenges in reading (like to read hard, challenging books) and reading efficacy (do reading work exactly as the teacher wants it) which help them to develop reading comprehension. "… the more one reads, the better reader one becomes" (Gambrell, 2011:5). On the extrinsic motivation to read side, deaf students also appeared fairly serious about obtaining good grades (which is normally possible through reading) and demonstrated more recognition-seeking behavior (reading texts with the intention to get recognition from teachers, parents and other people). Generally, Guthrie, Coddington, and Wigfield (2009) affirmed the importance of motivation in reading by expressing that, while reading achievement is important, a major aim for student reading should be to foster life-long readers. While educators often confirm the importance of motivation, it has often been overlooked in "research, theory, practice, and teacher education".

5.2.3 Discussion on the findings of reading strategies use

Researchers (Garner & Bochman, 2004) indicate that reading comprehension needs application of effective reading strategies. This is because strategies enable students to tackle challenges faced in reading texts. For instance in this study global strategies relate to global analysis of the text, such as determining the purpose of the text and using textual aspects to enhance reading comprehension. Problem-solving strategies relate to strategies used when the text is difficult. Strategies that fall within this category include reading slowly and carefully and guessing the meaning of unknown words. Support-reading strategies relate to the use of other material to aid in comprehension such as the use of reference materials and taking notes. Therefore, deaf students should know and properly apply reading strategies. As mentioned so far, this study examined cognitive reading strategies in three categories. Accordingly, the reading strategies scores for deaf students' ranged from 1.75 to 4.56 with mean (3.14), (3.12) (3.30) and (3.18) in the different reading strategies, global, problem solving, support reading and overall reading strategies respectively. This means the study revealed medium level strategies use under each of the strategies subscale as noted by Oxford's, 1990. Oxford, 1990 classifies, mean scores range from 1 to 5 and are rated as low (2.4 or less), medium (2.5 to 3.4) or high (3.5 or higher).

The interview finding is also consistent with the questionnaire. It revealed that all the teachers had employed different reading strategies. Particularly, they explained that global reading strategies such as: letting students have a purpose in mind when they read and letting students decide what to read closely and what to ignore have got emphasis. Below is one of the EFL teachers', TD's, direct reflection. TD said:

> Well, I help them develop a sense of purpose. Related to global reading skills, I give them a purpose, I allow them to read and grasp the key ideas and points of the passage. So I employ global reading strategies. I also employ background knowledge if they have background knowledge related to the topic they read. Regarding the second problem-solving strategies, I let my students read slowly but carefully to be sure they understand what they are reading. Anyways in reading, they encounter problems while reading. Similarly, I employ support reading strategies such as: note taking and summarizing. I think, I incline to the global reading strategies.

These findings contrast the study by Belilew (2015). His study was an attempt to find out the rate of recurrence of reading strategy use among Ethiopian EFL learners. It also tried to figure out the possible relationship between reading strategy use and reading comprehension. Forty EFL learners participated in the study. With regards to the cognitive reading strategy, the calculated mean of the respondents' use of it was (3.88) which is high strategy use. The standard deviation for the cognitive reading strategy was (0.516). This high reading strategies use revealed in Belilew's study is because of the difference in deaf and hearing students reading comprehension ability. Research on cognitive awareness among d/hh students suggests that d/hh students do not readily engage in the use of comprehension strategies to facilitate comprehension during reading (Walker, Munro, & Rickards, 1998). Deaf students are less aware of the reading process and tend to be passive rather than active readers.

However, the global and overall reading strategies appeared to be more widely used than the other strategy types with the majority of the sample d/hh students, 90 (78.9%) reporting medium level use of each of these strategies subscale followed by problem-solving and support reading strategies use.

5.3 Discussion on the correlation between reading comprehension and background knowledge, motivation to read and reading strategies use

5.3.1 Correlation between reading comprehension and background knowledge

Regarding the correlation between background knowledge and reading comprehension ability the pearson's r correlation coefficient revealed that there was a modest positive significant correlation between background knowledge and reading comprehension ability, with (pearson's r = .243 and p = .009). This result indicates that a high score in background knowledge always goes with a high score in reading comprehension ability.

The finding is quite similar with Karen (2015) investigation on the relationship between background knowledge and reading comprehension ability. Karen studied factors that affect the reading comprehension of secondary students with disabilities (SWD). The participants were 158 SWD in grades 9 to 12 attending two large urban northern California high schools. Multiple regression analyses were conducted and prior or background knowledge was one of the affective and cognitive variables that were found to put a positive statistically significant influence on reading comprehension of secondary SWD. On the other hand, a non-significant result between prior knowledge and reading comprehension was found in Karen's investigation when prior knowledge is put in regression with reading comprehension ability in the presence of a variable called word recognition which had a strong statistically significant relation with reading comprehension ability. This might be because of multicollinearity, variables mustn't be too strongly correlated with one another, effect of the two independent variables in the model. If they are, this will cause serious problems in estimating the relationship between the dependent and predictor variables because it becomes hard to calculate the individual contribution of each variable. Therefore, almost all the variance in the variable prior knowledge might be explained by the other variable word recognition.

Prior knowledge or background knowledge helps not only reading comprehension but word reading as well (Priebe, Keenan, & Miller, 2012). Thus, statistically not significant relation between prior knowledge and reading comprehension that was found in Karen's investigation when prior knowledge is put in regression with reading comprehension ability in the presence of a variable called word recognition which had a strong statistically significant relation with

reading comprehension ability does not contradict the finding of this study as prior knowledge is more beneficial in helping students decode/read words (multicollinearity), which in turn improves comprehension. In sum, whether prior knowledge plays a direct part in aiding reading comprehension or whether word recognition is aided from prior knowledge, the end result is the same, prior knowledge is important to reading comprehension.

This study avoided word recognition due to the scope of the study. At the secondary level, word recognition the ability to decode words efficiently and with automaticity (Wexler, Vaughn, Edmonds, & Reutebuch, 2008) are not the focus of instruction, which is important during elementary school.

5.3.2 Correlation between reading comprehension and motivation to read

In relation to the correlation between motivation to read and reading comprehension ability, the Spearman's correlation coefficient revealed that there was a modest positive significant correlation between Intrinsic motivation to read and reading comprehension ability with (Spearman's correlation coefficient = .196 and p = .037). Similarly, there was a modest positive significant correlation between Overall motivation to read and reading comprehension ability (with Spearman's correlation coefficient = .282 and p = .002). These mean a high score in Intrinsic motivation to read and Overall motivation to read always go with a high score in reading comprehension ability. These findings are consistent with Wigfield et al. (2008) who concluded that reading comprehension was higher for engaged students described as those who were internally motivated to read.

However, there was a moderate positive significant correlation between Extrinsic motivation to read and reading comprehension ability (with Spearman's correlation coefficient = .324 and p = .000). This means a high score in Extrinsic motivation to read always goes with a high score in reading comprehension ability with moderate effect size which is greater than the effect size of Intrinsic motivation to read. This finding contradicts a study by Karen who noted reading comprehension was negatively correlated with Extrinsic motivation to read. The difference in these two results might be attributed to the difference in the research participants' nature. The participants in this study were d/hh in which Extrinsic motivation to read matters well.

Whereas, the participants in Karen's study were SWD in which Extrinsic motivation to read matters less because of their different needs arise from their heterogeneity.

5.3.3 Correlation between reading comprehension and reading strategies use

In relation to the correlation between reading strategies use and reading comprehension ability, use of Global and Support reading strategies were not significantly correlated to reading comprehension ability. Whereas, Problem-solving and Overall reading strategies use were found to be significantly correlated to reading comprehension ability. These results deviate from the general findings in the literature that has been declared there is a positive relation between the uses of strategies and reading comprehension. Particularly, global and problem-solving strategies use has been predicted to be used by highly skilled readers (Dockery, 2013). However, the participants of this study are less skilled readers as the reading comprehension test demonstrated low reading comprehension overall. Therefore, global reading strategies use is expected to be not correlated with the participants of this study as it has been predicted to be used by highly skilled readers according to Dockery.

Besides, the result not significant correlation for the support reading strategies use also relate to the use of support strategies may be indicated primarily among less skilled readers yet the deaf students (straggling readers) of this study does not use it. This is so because support strategies are basic, generally involving reliance on supporting material and resources, such as dictionaries, to aid in reading comprehension. Though the result of this study does not go with the literature, the usefulness of support strategies is highly influenced by factors such as the difficulty of the reading material and overall reading skills of the individual. Furthermore, Staden (2013) stated that "The reading skills of many deaf children lag several years behind those of hearing children and there is a need for identifying reading difficulties and implementing effective reading support strategies in this population".

On the other hand, the result not significant correlation for the support reading strategies use is consistent with what Schirmer, 2003; Schirmer, Bailey & Schirmer Lockman, 2004 declared that deaf students are less aware of the reading process and tend to be passive rather than active readers. Deaf students most often use strategies only when prompted to do so. Therefore, the result questions the EFL teacher reading instructions as well.

5.4 Discussion on the extent of the factors of deaf reading comprehension (background knowledge, motivation to read and reading strategies use) predict reading comprehension ability

The regressions model for the research variables revealed that Extrinsic motivation, Background knowledge and Intrinsic motivation were the three most predictors of reading comprehension. Overall motivation to read, Global reading strategies, Problem-solving reading strategies, Support reading strategies, and Overall reading strategies use were not found to be significant predictors of reading comprehension among d/hh students.

The final model which included the variables of Extrinsic motivation, Background knowledge and Intrinsic motivation to read was significant with $p < .05$. Like all the previous models, the $R^2 = .117$ suggests that our predictors are modest at predicting reading comprehension.

The finding thus suggests that deaf students in the Extrinsic motivation appeared more serious about obtaining good grades (which is normally possible through reading) and demonstrated more recognition-seeking behavior (reading texts with the intention to get recognition from teachers, parents and other people) and have more competition amongst themselves. These in turn contribute to their reading comprehension. The result contradicts a study by Sanford (2015). Sanford's study explored the relative importance of working memory, vocabulary, prior knowledge, word recognition, reading strategies and motivation-to-read for the reading comprehension of secondary SWD. The findings indicated that from the affective factors, reading comprehension was negatively correlated with Extrinsic motivation. According to Deci & Ryan (2002), there are several types of external motivation that vary depending upon the level of self determination a student exhibits. At the basic level, external motivation exists when a student is compelled to engage in an activity based on either reward or outside pressure (i.e., marks/grades). These findings suggest that students' reading comprehension decreases when they do not have internalized motivation to read. The results are consistent with those found by Wigfield et al. (2008) who noted that less engaged readers used fewer reading strategies while reading and reading comprehension was hindered. Less engaged readers are also those who avoid reading and do not engage in the specific activities (i.e., word reading, strategic reading) needed to help improve comprehension.

As Wigfield et al. (2008) relate, reading comprehension is influenced when students are engaged (i.e., intrinsically motivated). Extrinsically motivated students, in contrast, are those who are not actively engaged during reading, which negatively affects reading comprehension. The difference found in the result of extrinsic motivation between the two studies might be the difference in the participants. Sanford's study participants were SWD which included all kinds of disabled students whereas, this study particularly investigated d/hh students. Accordingly, d/hh students are visual learners and might be more affected by external factors (extrinsic motivation as it relates to concept more tangible to the learners such as : grades or marks and recognition) than internal factors (intrinsic motivation as it relates to relatively abstract concepts such as interest and desire to read) of reading.

Background knowledge, the other predictor of reading comprehension in this study, is consistent with the theoretical framework of the study, the CI model. The CI model employs bottom - up and top-down cognitive processes to comprehend text, which are needed for perception, problem solving and comprehension. The interaction between these two processes is what fosters comprehension. The initial stages of reading activate the bottom-up processes when a reader looks at the sensory input or words on the page and decodes them. Top-down processes are engaged after words have been decoded, which requires activation of prior knowledge of the words themselves or the concepts they represent. Both of these processes are integral to reading comprehension and require both perception to identify words and analysis of the semantic structure of the text (Taylor, Mraz, Nichols, Rickelman, & Wood, 2009).

Chapter six

6. Summary, Conclusions and Recommendations

Introduction

This final chapter, chapter 6, starts with a brief summary of the main findings from the two sections of the research data analysis (section 6.1). Then, conclusions drawn based on the summary would be presented (section 6.2). A number of recommendations are spelt out (section 6.3). The limitations of the study are acknowledged (section 6.4) and suggestions for further research are given (section 6.5) before the thesis is concluded (section 6.7).

6.1 Summary of the Major Findings

To investigate the reading comprehension problems encountered by deaf students in comprehending what they read in EFL, five sets of research questions were developed. Firstly, the present EFL reading comprehension level of grade 9-12 deaf students were assessed. Secondly, deaf students related factors that affect their EFL reading comprehension were identified. Thirdly, EFL teachers related factors that affect deaf students reading comprehension were investigated. Fourthly, relationship between the factors that affect deaf students EFL reading and their reading comprehension level were identified and finally the predictive power of each of the factors that affect deaf students EFL reading comprehension was determined.

To achieve this objective and seek answers to the research questions raised earlier, the necessary data were gathered from the respondents of the study using three instruments: EFL reading comprehension test, students' questionnaire and EFL teachers' interview. The reading comprehension test and the questionnaire were answered and produced quantitative data by the sample d/hh students whereas; the interview questions were responded and produced qualitative data by the English teachers of the school for the deaf. The findings were presented in two separate sections. Section 1 presented the quantitative component of the study specifically tried to answer the research questions 1, 2, 4 and 5 that were analyzed into two categories. The first two research questions were analyzed using descriptive statistics, mean, median, st. deviation and range. Whereas, the last two research questions were analyzed using inferential statistics, Persons' r correlation coefficient, Spearman's correlation coefficient and linear regression

analysis. The study employed SPSS Version 21 for both of the descriptive and inferential statistics analysis. Section 2 presented the qualitative component of the study particularly tried to answer the research question 3. For this qualitative section of the study, Nvivo 12 Pro qualitative data analysis software was employed for the transcription of audio file to text, coding into nodes and exploring different maps and theoretical models.

In answering the quantitative component of the study in section 1, the first research question was deaf reading comprehension ability level. The study found that overall low reading comprehension (a struggling reader or frustrated reader) which was a reading comprehension score of below 60%. According to Vivan (2017), there are three levels of reading comprehension categories: independent reader (a reading comprehension score of 90% and above), instructional reader (a reading comprehension score of 60% to 89%) and the frustrated reader (a struggling reader) (a reading comprehension score of below 60%). The interview result also revealed that the EFL teachers unfortunately had low opinion regarding the learners with deafness; given that they were qualified by the teachers as slow readers; not readily able to read and comprehend written texts.

The second research question was students' related factors that affect their EFL reading comprehension. The findings indicated three factors. 1. In relation to background knowledge, the overall mean and/or median score of deaf students' perceptions about the role of prior knowledge of a text's topic for reading comprehension revealed that students believe that prior knowledge sometimes enable them to comprehend what they read in EFL. 2. In relation to motivation to read, deaf students were sometimes Intrinsically and Extrinsically motivated to read which mean deaf students showed nearly equal Intrinsic motivation to read behaviors (reading curiosity, reading challenge, reading efficacy) and Extrinsic motivation to read behaviors (reading for grades, recognition for reading, compliments and competition in reading). 3. In relation to reading strategies use, the majority of the sample reported medium level use under each of the reading strategies sub-scale with score ranged from 1.75 to 4.56 with (M = 3.14) for Global Strategies, (M = 3.12) for Problem-solving Strategies, (M = 3.30) for Support Strategies and (M = 3.18) for Overall Strategies use. Oxford, 1990 classifies, mean scores range from 1 to 5 and are rated as low (2.4 or less), medium (2.5 to 3.4) or high (3.5 or higher).

Before proceeding to the conclusions drawn from the study findings, it is necessary to summarize the answer of the research question about the existence of statistically significant relation between the dependent and independent variables and predictive power of the independent variables over the dependent variables. Thus, with regard to existence of statistically significant relation, the first segment of the fourth research question examined the correlation between background knowledge and reading comprehension ability. The pearson's r correlation coefficient revealed that there was a modest positive significant correlation between background knowledge and reading comprehension ability with (pearson's r = .243 and p = .009).

The second segment of the fourth research question examined the correlation between motivation to read and reading comprehension ability. The Spearman's correlation coefficient revealed that there was a modest positive significant correlation between Intrinsic motivation to read and reading comprehension ability with (Spearman's correlation coefficient = .196 and p = .037). Similarly, there was a modest positive significant correlation between Overall motivation to read and reading comprehension ability with (Spearman's correlation coefficient = .282 and p = .002). However, there was a moderate positive significant correlation between Extrinsic motivation to read and reading comprehension ability with (Spearman's correlation coefficient = .324 and p = .000).

The third segment of the fourth research question examined the correlation between reading strategies use and reading comprehension ability. The correlation of reading strategies use yielded four variables, Global reading strategies use, Problem-solving reading strategies use, Support reading strategies use and Overall reading strategies use. The Spearman's correlation coefficient revealed that there were a modest positive not significant correlation between Global reading strategies use and reading comprehension ability with (Spearman's correlation coefficient = .181 and p = .054). Similarly, there were a modest positive not significant correlation between Support reading strategies use and reading comprehension ability with (Spearman's correlation coefficient = .163 and p = .083). However, there was a moderate positive significant correlation between Overall reading strategies use and reading comprehension ability with (Spearman's correlation coefficient = .199 and p = .034) and there were also a very strong positive significant correlation between Problem-solving reading

strategies use and reading comprehension ability with (Spearman's correlation coefficient = .93 and p = .039).

In relation to the predictive power of the independent variables over the dependent variable, the fifth research question explored the predictive power of the full set of the identified test variables of reading comprehension ability. The initial model of the regression included all variables with the exception of Global reading strategy use. The model was significant with $R^2 = .125$, F (7, 106) = 2.159, $p < .05$. The second model which excluded the variable of Overall reading strategies was significant $R^2 = .125$, F (6, 107) = 2.539, $p < .05$. The third model which excluded the variable of Overall motivation to read was significant $R^2 = .125$, F (5, 108) = 2.539, $p < .05$. The fourth model which excluded the variable of Support reading strategies use was significant $R^2 = .123$, F (4, 109) = 3.813, $p < .05$.The final model which included the variables of Background knowledge, Intrinsic motivation and Extrinsic motivation were significant $R^2 = .117$, F (3, 110) = 4.880, $p < .05$. Like all the previous models, the $R^2 = .117$ suggested that our predictors are modest at predicting reading comprehension. The model indicated that Extrinsic motivation was the most important predictor of reading comprehension with (β =.333, t = 3.674 and p = 0.009). The second important predictor of reading comprehension was Background knowledge with (β = .144, t = 1.308 and p =.019). The third important predictor of reading comprehension was Intrinsic motivation with (β = -.143, t = -1.144 and p = .025).

6.2 Conclusions

Based on the main findings synthesized above, this study was able to make the following conclusions regarding the problems encountered by deaf students in comprehending what they read in EFL.

First, deaf students cannot engage in effective reading comprehension unless they possess the reading comprehension abilities required at their levels. In other words, deficient reading comprehension ability leads to poor predisposition towards and practice of reading. In this connection, this study found that deaf students had overall low reading comprehension ability levels or struggling readers. Based on this finding, it can be concluded that overall low reading comprehension ability levels can hinder deaf students' not only involvement in EFL reading texts but also involvement of reading a variety of subjects they learn in English language.

The poor reading comprehension ability levels among deaf students can be rooted in their learning experiences in earlier grades (Smith, Stone & Comings 2012:9-10). It can also be concluded that the low reading comprehension ability levels among deaf students can slowly erode their positive attitude towards learning the English language, reading its literature and / or learning other subjects which medium of instruction is English.

However, regardless of the sources of the problem, the findings of this study imply that there is more need for scaffolding reading comprehension in deaf education. In fact, for effective scaffolding of reading comprehension to occur, English teachers should be aware of the role of scaffolded instruction in fostering student reading comprehension (Huggins & Edwards 211:31) and develop expertise, coupled with commitment, to implement it.

Second, the final model of the regression which included the variables of Extrinsic motivation Background knowledge and Intrinsic motivation were significant predictors of reading comprehension. Particularly, Extrinsic motivation to read was the most important predictor of reading comprehension. The second most important predictor of reading comprehension was Background knowledge and the third important predictor of reading comprehension was Intrinsic motivation to read.

Thus, for the motivation-to-read factors, intrinsic motivation to read and extrinsic motivation to read were predictors of reading comprehension. The objective of reading is to comprehend, but if students do not engage in the activity that can help improve their comprehension (i.e., reading), then the best lesson and activities will be ineffective. Reading is integral to EFL learning and future success and intrinsically motivated students are more successful readers. As students internalize motivation, an added benefit according to Guthrie (2008) is “empowerment.” This empowerment will help secondary deaf students’ graduate high school and pursue post-secondary goals. Besides, it is possible to conclude to give equal weight or even more weight for extrinsic motivation in case of deaf secondary students as d/hh students are visual learners and can be more affected by external factors (extrinsic motivation as it relates to concepts more tangible to the learners such as: grades or marks and recognition) than internal factors (intrinsic motivation as it relates to relatively abstract concepts like interest and desire to read) of reading.

Research based on gender also shows that internal motivation is more often seen at older students, while the external motivation is more often seen at the younger ones (Mijatovic, 2020).

Background knowledge, the other predictor of reading comprehension in this study, is consistent with the theoretical framework of the study, the CI model. The CI model employs bottom - up and top-down cognitive processes to comprehend text. The interaction between these two processes is what fosters comprehension. The initial stages of reading activate the bottom-up processes when a reader looks at the sensory input or words on the page and decodes them which are skills attached to early grade level and continue to put influence on reading in secondary grade level. Top-down processes are engaged after words have been decoded, which requires activation of prior knowledge of the words themselves or the concepts they represent. Based on this finding, it can be concluded that background knowledge fosters reading comprehension of deaf learners after they have decoded words by enabling them relate text to their own prior knowledge, confirm predictions based on prior knowledge, focus on the main ideas and recall information easily.

Finally, it can also be inferred that the use of cognitive strategies particularly, global and support reading strategies, during reading was not found to be significantly related to reading comprehension which have negative implications for deaf reading comprehension, can emanate from inadequate reading strategies instruction and/or insufficient coverage of strategy components (global reading strategies and support reading strategies in textbooks (course materials). Whereas, problem-solving and overall reading strategies use were found to be significantly correlated to reading comprehension ability.

6.3 Recommendations

This study examined problems encountered by d/hh students in comprehending what they read in EFL and in doing so identified reading comprehension levels of d/hh students and several correlates and predictors of reading comprehension. This section presented the recommendations forwarded based on the conclusions drawn from the quantitative and qualitative findings of the study. The recommendations dealt with measures that should be taken to improve deaf or hard of hearing students' reading comprehension ability levels and deaf students' related factors that affect their EFL reading comprehension (background knowledge, motivation to read, and reading

strategies use). Deaf educators, school leaders, , researchers and curriculum designers could find the information derived from this study valuable.

- This study revealed overall low reading comprehension ability levels among d/hh students which can hinder their EFL reading comprehension. Therefore, English language teachers of school for the deaf should work to improve their students' reading comprehension competence through instructional scaffolding. Scaffolding reading comprehension includes effective strategy instruction through interesting texts and tasks, working on students' reading attitude and reading motivation and making adequate time to engage students in successful sustained reading (Huggins & Edwards 211:31). It is thus necessary that English language teachers in deaf schools develop their expertise and commitment to address these crucial issues in their reading instruction with the view of enabling students to develop reading comprehension ability. Similarly, deaf or hard of hearing students should realize their low EFL reading comprehension ability and work towards improving it through the strategy instructions offered by their teachers.

- Deaf schools or EFL teachers should also foster collaboration in reading between elementary and secondary and special education teachers. Deaf students in secondary schools do not suddenly develop significant reading deficits upon entering high school; they bring their reading deficits with them. Collaboration between elementary and secondary teachers would allow open dialogue about how to support struggling readers as well as encourage a discussion on the shared experiences of their students, which could help produce higher academic outcomes for students with deficient reading skills (Van Garderen, Stormont, & Goel, 2012). Cross-grade professional development is one way to ensure that a partnership exists between teachers who teach d/hh students. As elementary teachers become familiar with the reading demands of secondary students, dialogue between stakeholders can help improve the literacy instruction for deaf students. An understanding of which targeted interventions are beneficial for students would be one outcome that could help alleviate severe reading deficits of secondary students. Working together, teachers could design early intervention reading programs that will support deaf students.

- Results for the motivation-to-read factors, intrinsic motivation to read and extrinsic motivation to read, were predictors of reading comprehension. Moreover, there were a modest positive significant correlation between intrinsic motivation to read and reading comprehension ability and there was a moderate positive significant correlation between extrinsic motivation to read and reading comprehension ability, deaf students who have an innate desire to read (intrinsic motivation) and who have an external need to urge to participate in learning or reading such as reading for grades and recognition for reading (extrinsic motivation) had higher reading comprehension scores despite the overall low reading ability. These results have implications for teachers who teach reading to struggling secondary students. Therefore, teachers of English in deaf schools need to enhance their students' reading motivation and their challenge-facing (risk-taking) capacities. Boosting students' reading motivation requires choosing interesting and relevant texts which enable them to see connections between in-school reading and real-life reading. To this effect, teachers of English in deaf schools, instead of implementing textbook-driven reading lessons, should constantly engage students in reading a variety of texts in and outside the classroom. Ensuring success with manageable tasks and providing persistent practice opportunities are some of the measures teachers can take to foster students' challenge-facing (risk-taking) behavior (Gambrell 2011:9) a crucial component of reading motivation which impacts on reading comprehension.

- In addition to EFL teachers, curriculum designers should review research findings on special need education in general and d/hh students in particular as well as the curriculum development frame work they follow in designing a given curriculum. This enables curriculum designers to have a comprehensive data on all students particularly d/hh students and help them choose interesting and relevant texts, manageable tasks and provide persistent practice opportunities which enable d/hh students to be successful in reading comprehension and their academics.

- Curriculum designers and EFL teachers should also consider instruction practices when planning reading instruction to ensure that students are engaged during instruction that, for many, is very challenging.

The implication for motivating instruction is especially important for d/hh secondary students who still struggle to gain meaning from what they read.

- Background knowledge, the other predictor of reading comprehension in this study fosters reading comprehension of deaf learners after they have decoded words by enabling them relate text to their own prior knowledge, confirm predictions based on prior knowledge, focus on the main ideas and recall information easily. Therefore, EFL teachers should help their students make connections between their prior knowledge and new reading materials through implementing different pre-reading activities. Teachers should also be aware that even though it might take them more time to prepare pre-reading activities and implement them, the benefits gained from these activities merit the effort as the activities contribute to improving learners' reading comprehension.

- The use of different types of cognitive strategies, global and support reading strategies, during reading was not found to be significantly related to reading comprehension. Whereas, problem-solving and overall reading strategies use were found to be significantly correlated to reading comprehension ability. Thus, EFL teachers should offer adequate reading strategies instruction and/or sufficient coverage of strategy components (global reading strategies, problem-solving reading strategies, support reading strategies and overall reading strategies) in their lessons. Besides, curriculum designers and textbook writers should offer adequate reading strategies instruction and/or sufficient coverage of strategy components (global reading strategies, problem-solving reading strategies, support reading strategies and overall reading strategies) in curriculum development and textbooks (course materials).

- Though the use of different types of cognitive strategies, global and support reading strategies, during reading was not found to be significantly related to reading comprehension in this study, research suggests that both motivational and cognitive processes work together in engaged readers who are strategic and internally motivated readers (Wigfield, et al., 2008). Through use of reading strategies, engaged readers are able to comprehend what they read. Disengaged students are not motivated to read and consequently, do not use reading strategies to aid comprehension.

Therefore, curriculum designers and EFL teachers should emphasize on choosing interesting and relevant texts which enable deaf students engage in reading and use reading strategies to aid comprehension.

6.4 Limitations of the study

Like any other study, this study acknowledges the following limitations, which future studies could thwart, if need be. Firstly, the fact that this study was delimited to one deaf boarding school in the town of Hossana makes it limited in its scope. However, the findings can apply to deaf students of other parts of Ethiopia because the school enrolls deaf students from every corner of the country. On the one hand, as the same English textbook is used in the deaf boarding school and public schools in the country, the weaknesses and trends that prevail in this deaf boarding school can influence the different deaf students attending their education in public schools in integration approach to disabled students.

Secondly, students' reading comprehension ability levels were determined based on their results on a single test. Administering more than one test would have given more confidence in drawing conclusions about the study participants' reading comprehension ability levels. To address this problem, Gunning Fog Index, 1952 was employed to determine the readability of the reading comprehension passages of each grade level. In addition to this, care was taken to increase the validity and reliability of this test by obtaining teachers' comments and piloting it to improve its difficulty level and discrimination power.

The third limitation was in data collection. As some of the grade levels were tested at break time of the school session, some results may be inaccurate due to student fatigue. For deaf students in the boarding school, since being at school all day, they face fatigue and this may have encouraged them to hurry up and finish the test and enjoy their break time, which could account for unreliable results. During the break time and after school sessions, the researcher closely monitored all participants to watch for signs of fatigue. However, reliability scores support that the scores were reliable. Future research should consider student fatigue when designing studies and collecting data with numerous test instruments.

Finally, this study investigated limited number of the factors of deaf reading comprehension. However, investigation including correlates between grade, gender differences and demographic variables with deaf reading comprehension my yield more comprehensive understanding of the issues under study.

6.5 Further research

This study examined problems encountered by d/hh student in comprehending what they read in EFL and in doing so identified reading comprehension levels of d/hh students and several correlates and predictors of reading comprehension. Previous local study (e.g. Deginesh and Asrat, 2016) focused on challenges of hearing impaired students in integrated class, in public schools in Ethiopia. However, in this study, d/hh student challenges particularly in comprehending what they read in EFL with several dimensions of reading comprehension such as reading comprehension ability levels, deaf students' related factors that affect their EFL reading comprehension (background knowledge, motivation to read and reading strategies use) were investigated. Still, further studies are crucial to address these issues in different settings and other aspects of deaf reading comprehension in various contexts. Areas for future deaf or hard of hearing EFL reading comprehension studies in the Ethiopian context could include sign language, deaf reading attitude, grade and gender differences and demographic variables.

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Appendix A

Adapted Standardized Diagnostic Reading Test, MICO for Grade 9

The objective of this test is for data gathering of PhD dissertation entitled as: Problems encountered by deaf students in comprehending what they read in EFL. The test is by no means judgmental or evaluative of individual student. The test comprises a reading passage followed by 6 explicit (Who, which, when…) multiple choice questions. It also incorporates balance of higher skills and lower skills questions. The readability of the passage is checked using Gunning Fog Index (1952). The fog index is a readability test for English writing. The index estimates the years of formal education a person needs to understand the text on the first reading. Accordingly, the current passage readability level is 8.6 and would be administered for grade 9 students.

Adapted Standardized Diagnostic Reading Test, MICO for Grade 9

Read the passage below and answer the questions that follow

Mask

Mask is a covering for the face, as a bandage or a cloth that prevents droplets from the mouth and nose. It keeps the droplets from spreading in the air. If you are in a public place where you meet other people, you should wear a mask. Now a days, face masks help contain respiratory droplets that can transmit the corona virus that causes COVID-19, from people who do not know they have the virus. Therefore, when inside an office, store, restaurant, school or when on public transportation, you should wear a mask. When you are outdoors walking or exercising near others, it is also important to wear a mask. Currently everyone should wear a mask, except children under age 6.

1. What is a covering that prevents droplets from the mouth and nose?

    A. Eye glass
    B. Mask
    C. Office
    D. None

2. According to the passage, which statement is true?

    A. Mask is a covering for the face.
    B. We should wear a mask in schools.
    C. Everyone should wear a mask
    D. Nine

3. Which of the following virus causes COVID 19?

    A. HIV
    B. Corona virus
    C. Mask
    D. None

4. What is the antonym of "… **outdoors** …" in paragraph 2?

A. Windows

B. Indoors

C. No door

D. None

5. What is the main idea of this passage?

A. The importance of exercise

B. The importance of mask

C. The problem of COVID19

D. The problem of mask

6. Which age group do you think should wear a mask?

A. Under age 6

B. under age 18

C. All age groups except under age 6

D. None

Adapted Standardized Diagnostic Reading Test, MICO for Grade 10

The objective of this test is for data gathering of PhD dissertation entitled as: Problems encountered by deaf students in comprehending what they read in EFL. The dissertation is by no means judgmental or evaluative of individual student. The test comprises a reading passage followed by 7 explicit (Who, which, when…) multiple choice questions. It also incorporates keep balance of higher skills and lower skills questions. The readability of the passage is checked using Gunning Fog Index (1952). The fog index is a readability test for English writing. The index estimates the years of formal education a person needs to understand the text on the first reading. Accordingly, the current passage readability level is 9.6 and would be administered for grade 10 students.

Adapted Standardized Diagnostic Reading Test, MICO for Grade 10

Read the passage below and answer the questions that follow

Entoto Park

Entoto Park is recently launched a new tourist attraction at the Entoto Mountain in the capital of Ethiopia, Addis Ababa. Ethiopian Prime Minister Abiy Ahmed has opened the park. The Park is established in a densely forested area, often called the lungs of Addis Ababa. Many of Ethiopia's legendary long distance runners have been using Entoto forest for their training. The park has cafés and resorts in it. Visitors can have a taste of authentic Ethiopian coffee at the park. The coffee is served by major brands of the country such as Kaldis and Tomoca. 400 women were used to live by collecting fire woods in the forest. They have been trained to work for the cafes in Entoto Park when the forest is turned into Entoto Park.

1. What is the main idea of this passage?

    A. Entoto Park is a new tourist attraction
    B. Entoto Park is a coffee house
    C. Entoto Park is sports field
    D. None

2. Who has opened Entoto Park?

    A. 400 women
    B. Ethiopian Prime Minister Abiy Ahmed
    C. Ethiopia's famous long distance runners
    D. All

3. According to the passage, what is often called the lungs of Addis Ababa?

    A. Prime Minister Abiy Ahmed
    B. Tourists
    C. Entoto Park
    D. None

4. What does the word **legendary** mean in paragraph 2?

A. famous

B. Ordinary

C. Normal

D. Historical

5. Where can visitors have a taste of authentic Ethiopian coffee?

A. Near Entoto Park

B. In front of Entoto Park

C. At Entoto Park

D. Behind Entoto Park

6. What does the pronoun "**They**…" (line 7) refer to?

A. Forests

B. Women

C. Cafes

D. All

7. What does the word **authentic** mean in paragraph 2?

A. Artificial

B. Real

C. Fake

D. Unreal

Adapted Standardized Diagnostic Reading Test, MICO for Grade 11

The objective of this test is for data gathering of PhD dissertation entitled as: Problems encountered by deaf students in comprehending what they read in EFL. The test is by no means judgmental or evaluative of individual student. The test comprises a reading passage followed by 7 explicit (Who, which, when…) multiple choice questions. It also incorporates balance of higher skills and lower skills questions. The readability of the passage is checked using Gunning Fog Index (1952). The fog index is a readability test for English writing. The index estimates the years of formal education a person needs to understand the text on the first reading. Accordingly, the current passage readability level is 10.7 and would be administered for grade 11 students.

Adapted Standardized Diagnostic Reading Test, MICO for Grade 11

Read the passage below and answer the questions that follow

Hand wash

Hand wash is a necessary hygienic act that prevents diseases. It saves a lot of people **annually**. Surprisingly, hand wash alone saves millions of people in the world every year, especially small children. Germs settle down on your hands when you touch a surface, play or shake hands, etc. These germs can cause diseases including the pandemic COVID-19. **They** can enter your body through entry holes like mouth, nose, eyes, etc.

To wash your hands, rub soap on your palm. Then stay greasing the different part of your hand with froth and bubble for 20 seconds. Finally, wash your hand with water so that the germs get rinsed off. As simple as that! It is a simple but very important work. It prevents germs from entering into your body and helps you stay healthy.

1. According to the passage, which one is **NOT** mentioned among the steps of hand wash?

    A. rubbing soap on our palm,
    B. greasing hands with froth and bubble for 20 seconds,
    C. washing hands with water
    D. killing germs

2. What does the pronoun "**They**…" (para 2 line 2) refer to:

    A. COVID-19,
    B. germs,
    C. hands,
    D. eyes

3. Which sentence best expresses the main idea of this passage?

A. COVID 19 is a fatal pandemic.

B. Washing hands is good to our health

C. Germs enter our body through entry holes

D. Small children do not wash their hands properly

4. What does the word "…**annually**." (para 1 line 1)mean?

A. daily

B. each year

C. carefully

D. surprisingly

5. According to the passage, which statement is **NOT** true?

A. Hand wash is a simple task

B. Hand wash protect germs from entering our body

C. Hand wash is the reason for millions of children to die annually.

D. None

6. When do germs settle down on our hands?

A. when we touch a surface, play or shake hands, etc.

B. When we wash our hands

C. When we were children

D. None

7. What should we do to stay healthy?

A. Forgetting COVID 19

B. Buying soap

C. Washing hands

D. Nothing

Adapted Standardized Diagnostic Reading Test, MICO for Grade 12

The objective of this test is for data gathering of PhD dissertation entitled as: Problems encountered by deaf students in comprehending what they read in EFL. The test is by no means judgmental or evaluative of individual student. The test comprises a reading passage followed by 7 explicit (Who, which, when…) multiple choice questions. It also incorporates balance of higher skills and lower skills questions. The readability of the passage is checked using Gunning Fog Index (1952). The **fog index** is a readability test for English writing. The index estimates the years of formal education a person needs to understand the text on the first reading. Accordingly, the current passage readability level is 11.6 and would be administered for grade 12 students.

Adapted Standardized Diagnostic Reading Test, MICO for Grade 12

Read the passage below and answer the questions that follow

Unity Park

Unity Park launched in October 2019. It was built in the 1800's and has been housing emperors and prime ministers until recently. It is established at the Ethiopian Grand Palace (Menelik's I Palace). **It** incorporates a green area, Lion Zoo; a garden that contains over 43 indigenous plants; regional states pavilion, where regional states will demonstrate their cultural and historical assets; historical palace buildings and a zoo, which will have 312 animals from 46 different types of species. The green area which includes children's playground offers remarkable welcome to Unity Park. All of the palace buildings have been recently repaired and can be **toured** as part of the VIP ticket fee.

This is the first time that tourists and Ethiopian citizens have been allowed into the palace. This experience offers an opportunity to gain knowledge about Ethiopia's history.

1. Which sentence best expresses the main idea of this passage?

    A. Unity Park was built in 1800's.
    B. Unity Park is a home of many animals.
    C. Unity Park can be used as a tourist destination.
    D. Emperors and Prime Ministers live in Unity Park until recently.

2. Which one of the following statements is true according to the passage?

    A. Unity Park was launched in 1800's.
    B. Unity Park is located at the Ethiopian Grand Palace.
    C. Tourists have been allowed to visit the Park since 1800's.
    D. None

3. According to the passage, which one is **NOT** mentioned as part of Unity Park?

A. Regional states pavilion

B. Historical palace buildings

C. 46 types of indigenous plants species

D. Wild animals

4. What does the word **toured** mean in paragraph1?

A. visited

B. renewed

C. damaged

D. constructed

5. Towards the end of the passage the writer states, ***"This experience offers an opportunity to learn about Ethiopia's history."*** What experience is the writer talking about?

A. The construction of the green area in the Park.

B. Allowing tourist and Ethiopian citizens to visit the Park

C. The inclusion of the zoos

D. Conserving various indigenous plants species

6. What does the pronoun "It…" (line 3) refer to?

A. Menelik's I Palace

B. Unity Park

C. Lion Zoo

D. Ethiopia

7. What is the word **ticket** mean in line 7?

A. Birr

B. Receipt

C. Dollar

D. None

Appendix B

Students' Questionnaire

The objective of this questionnaire is for research purpose. The research is by no means judgmental or evaluative of individual student. The questionnaire comprises three sections of problems deaf students encountered in comprehending what they read in English. The first section comprises questions that try to identify deaf students view the role of their **background knowledge** in comprehending ELT texts. The second section comprises questions that try to assess deaf students' **motivation to read** and the third section comprises questions that try to identify **reading strategies** in three sub-sections: **global reading strategies** you use to comprehend what you read. The second section consists of questions that deal with **problem-solving reading strategies** you employ to comprehend what you read. The last section tries to identify **support reading strategies** you use to comprehend what you read in EFL.

Thus, you are kindly requested to show the problems you encountered in comprehending what you read in EFL through answering the questions related to how you feel about your background knowledge, motivation to reading and reading strategies use by circling the number of your choice.

Thank you in advance for your unreserved cooperation!

Section I. Students' perception of their background knowledge

Direction: The sentences below tell how students feel about prior knowledge in comprehending ELT materials. Read to each sentence and decide the scale that represents you best. There is no right or wrong answers.

1=Never 2= Occasionally 3=Sometimes 4= Usually 5= Always

No	**Items**	**Scale**				
	When I have sufficient prior knowledge about a topic, I can:	**1**	**2**	**3**	**4**	**5**
1	Understand the text better					
2	Recall information easily					
3	Read the text quickly					
4	Link the ideas in the text easily					
5	Focus on the main ideas					
6	Overcome limited linguistic knowledge					
7	Relate text to my own prior knowledge					
8	Predict text content easily					
9	Confirm predictions based on prior knowledge					

Section II. Motivation to Reading

Direction: Put a tick mark (√) in the appropriate box in front of each item.

1=Never 2= Occasionally 3=Sometimes 4= Usually 5= Always

No	Items	Scale				
	I. Intrinsic motivation	**1**	**2**	**3**	**4**	**5**
1	If I am reading about an interesting topic in a material written in English, I sometimes lose track of time.					
2	I read to learn new information about topics that interest me					
3	I like to read materials written in English to learn about the English speaking community.					
4	I like hard, challenging books					
5	I don't like reading something when the words are too difficult.					
6	I like it when the questions in books make me think.					
7	I always do my reading work exactly as the teacher wants it.					
8	I like being the only one who knows an answer in something we read.					
II. Extrinsic motivation						
9	Others ask me about my reading grade.					
10	I look forward to finding out my reading grade.					
11	I am happy when someone recognizes my reading.					
12	Others sometimes tell me I am a good reader.					
13	I like having the teacher say I read well.					
14	I like to get compliments for my reading.					
15	It is important for me to see my name on a list of good readers.					

Section III

Cognitive Awareness of Reading Strategies Inventory (Version 1.0)

Direction: Listed below are statements about what people do when they read *academic or school-related materials* such as textbooks or library books.

Five numbers follow each statement (1, 2, 3, 4, 5) and each number means the following:

1 means "**Never**".
2 means "O**ccasionally**".
3 means "S**ometimes**".
4 means "U**sually**".
5 means "A**lways**".

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there is no right **or wrong answers** to the statements in this inventory.

Type Strategy	**Scale**				
I. Global Reading Strategies					
1. I have a purpose in mind when I read.	1	2	3	4	5
2. I think about what I know to help me understand what I read.	1	2	3	4	5
3. I preview the text to see what it's about before reading it.	1	2	3	4	5
4. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
6. I decide what to read closely and what to ignore.	1	2	3	4	5
7. I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
8. I use context clues to help me better understand what I'm reading.	1	2	3	4	5
9. I use typographical aids like boldface and italics to identify key information.	1	2	3	4	5
10. I skim the text first by noting characteristics like length and organization.	1	2	3	4	5
11. I check my understanding when I come across conflicting information.	1	2	3	4	5
12. I underline or circle information in the text to help me remember it.	1	2	3	4	5
13. I check to see if my guesses about the text are right or wrong.	1	2	3	4	5

II. Problem-Solving Reading Strategies

14. I read slowly but carefully to be sure I understand what I'm reading.	1	2	3	4	5
15. I try to get back on track when I lose concentration.	1	2	3	4	5
16. I adjust my reading speed according to what I'm reading.	1	2	3	4	5
17. When text becomes difficult, I pay closer attention to what I'm reading.	1	2	3	4	5
18. I stop from time to time and think about what I'm reading.	1	2	3	4	5
19. I try to picture or visualize information to help remember what I read.	1	2	3	4	5
20. When text becomes difficult, I reread to increase my understanding.	1	2	3	4	5
21. I try to guess the meaning of unknown words or phrases.	1	2	3	4	5

III. Support Reading Strategies

22. I take notes while reading to help me understand what I read.	1	2	3	4	5
23. I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
24. I summarize what I read to reflect on important information in the text.	1	2	3	4	5
25. I discuss what I read with others to check my understanding.	1	2	3	4	5
26. I try to guess what the material is about when I read.	1	2	3	4	5
27. I use reference materials like dictionaries to help me understand what I read.	1	2	3	4	5
28. I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
29. I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
30. I ask myself questions I like to have answered in the text.	1	2	3	4	5

አዲስ አበባ ዩኒቨርሲቲ

የሂማኒቲስ ፣ የቋንቋ ጥናት ፣ ጋዜጠኝነት እና ኮሚዩኒኬሽን ኮሌጅ

የውጭ ቋንቋ እና ሥነ-ጽሑፍ ት/ክፍል

የተማሪዎችመጠይቅ

የዚህ መጠይቅ ዓላማ ለምርምር ስራ ነው። ጥናቱ በምንም መንገድ የግለሰብ ተማሪን ፈራጅ ወይም ገምጋሚ አይደለም። መጠይቁ መስማት የተሳናቸው ተማሪዎች በእንግሊዝኛ የሚያነቡትን በመረዳት ረገድ የሚጠቀሙባቸውን / የንባብ ችግሮቻቸውን / ለመለየት የሚሞክሩ ሦስት አንብቦ የመረዳት ስልቶችን ያጠቃልላል። የመጀመሪያው ክፍል መስማት የተሳናቸው ተማሪዎች የውጭ ቋንቋ (የእንግሊዝኛ ቋንቋ) ጽሑፎችን በመረዳት ረገድ **የቀድሞ ዕውቀታቸውን** ሚና ለመለየት የሚሞክሩ ጥያቄዎችን ያቀፈ ነው ። ሁለተኛው ክፍል መስማት የተሳናቸው ተማሪዎችን **የንባብ ተነሳሽነት** ለመገምገም የሚሞክሩ ጥያቄዎችን ያቀፈ ሲሆን ሶስተኛው ክፍል ደግሞ በሶስት ንዑስ ክፍሎች ውስጥ **የንባብ ስልቶችን** ለመለየት የሚሞክሩ ጥያቄዎችን ያጠቃልላል። ያነበቡትን ለመረዳት የሚጠቀሙበት የንባብ ስልቶች የመጀመሪያው ንዑስ ክፍል **ዓለም አቀፍ የንባብ ስልቶች** ይሰኛል። ሁለተኛው ንዑስ ክፍል ያነበቡትን ለመረዳት የሚጠቀሙበት **ችግር ፈቺ ንባብ ስልቶችን** የሚመለከቱ ጥያቄዎችን ያቀፈ ነው ። የመጨረሻው ንዑስ ክፍል ያነበቡትን ለመረዳት የሚጠቀሙባቸውን **የድጋፍ ንባብ ስልቶችን** ለመለየት ይሞክራል ።

ስለሆነም የምታነቡትን በመረዳት ረገድ የምትጠቀሙባቸውን / የንባብ ችግሮቻቹን / ለመለየት ከሚሞክሩት ሦስት አንብቦ የመረዳት ስልቶች ስር የተዘረዘሩትን የንባብ ስልቶችን ምን ያህል እንደምትጠቀሙ የመረጣቹትን ቁጥር በማክበብ እንድታሳዩ በትህትና ተጠይቃችዋል ።

ለትብብርዎ በቅድሚያ አመሰግናለሁ!

ክፍል I. ተማሪዎች ስለቀድሞ ዕውቀታቸው ያላቸው ግንዛቤ

መመርያ- ከዚህ በታች ያሉት ዓረፍተ-ነገሮች ተማሪዎች የእንግሊዝኛ ቋንቋ ጽሑፎችን አንብቦ በመረዳት ረገድ ስለቀድሞ ዕውቀታቸው ምን እንደሚሰማቸው ይናገራሉ። እያንዳንዱ ዓረፍተ ነገር ያንብቡ እና እርስዎን በተሻለ የሚወክልዎትን ሚዛን ይወስናሉ። ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም።

1 = በጭራሽ 2 = አልፎ አልፎ 3 = አንዳንድ ጊዜ 4 = ብዙውን ጊዜ 5 = ሁልጊዜ

ተ.ቁ	ጥያቄዎች	ሚዛን				
	ስለርዕሰ-ጉዳይ በቂ የሆነ ቅድመ-ዕውቀት ሲኖረኝ፡-	1	2	3	4	5
1	ጽሑፉን በተሻለ እረዳለው					
2	መረጃን በቀላሉ አስታውሳለው					
3	ጽሑፉን በፍጥነት አነባለው					
4	በጽሁፉ ውስጥ ያሉትን ሀሳቦች በቀላሉ አገናኛለው					
5	በዋና ሀሳቦች ላይ ትኩረት አደርጋለው					
6	የቋንቋ ዕውቀት ውስንነትን እቀርፋለው					
7	ቀደምት ዕውቀቴን ከጽሑፉ ጋር አዛምዳለው					
8	የጽሑፍ ይዘትን በቀላሉ ተነብያለው					
9	በቀደመው እውቀት ላይ የተመሠረተ ትንበያዎችን አረጋግጣለው					

ክፍል II. ለማንበብ ተነሳሽነት

መመርያ- በእያንዳንዱ ለማንበብ ተነሳሽነት ጥያቄዎች ፊት ለፊት ላይ ከ 1-5 ሚዛን አለ። እርስዎን በተሻለ የሚወክልዎትን ሚዛን ወስነው በተገቢው ሣጥን ውስጥ የ (√) ምልክት ያድርጉ።

1 = በጭራሽ 2 = አልፎ አልፎ 3 = አንዳንድ ጊዜ 4 = ብዙውን ጊዜ 5 = ሁልጊዜ

ተ.ቁ	I. ለማንበብ ውስጣዊ ተነሳሽነትጥያቄዎች	ሚዛን				
		1	2	3	4	5
1	ስለአንድ አስደሳች ርዕስ በእንግሊዝኛ ሳነብ አንዳንዴ ከጊዜ ገደብ እወጣለሁ።					
2	ስለ አስደሳች ርዕሶች አዲስ መረጃ ለመማር የማንበብ ፍላጎት ያድርብኛል።					
3	ስለእንግሊዝኛ ተናጋሪ ማህበረሰብ ለመማር በእንግሊዝኛ የተፃፉ ቁሳቁሶችን ማንበብ እፈልጋለሁ።					
4	ከባድና ፈታኝ መጻሕፍትን እወዳለሁ።					
5	ቃላቱ በጣም አስቸጋሪ በሚሆኑበት ጊዜ አንድ ነገር ማንበብ አልወድም።					
6	በመጽሐፎች ውስጥ ያሉ ጥያቄዎች እንዳስብ ሲያደርጉ ደስ ይለኛል።					
7	ሁል ጊዜ የንባብ ስራዬን አስተማሪው እንደሚፈልገው እሰራለሁ።					
8	ባነበብነው ነገር ውስጥ መልስ የማውቀው እኔ ብቻ መሆን እወዳለሁ።					
	II. ለማንበብ ውጫዊ ተነሳሽነት					
9	ሌሎች ስለ ንባብ ውጤቴ ይጠይቁኛል።					
10	የንባብ ውጤቴን ለማወቅ ጓጓለሁ።					
11	ሰው ስለ ንባቤ እውቅና ሲሰጠኝ ደስ ይለኛል።					
12	ሌሎች አንዳንድ ጊዜ ጥሩ አንባቢ ነህ ይሉኛል።					
13	አስተማሪ በደንብ ታነባለህ ሲለኝ ደስ ይለኛል።					
14	ሳነብ ምስጋና ማግኘት እፈልጋለሁ።					
15	በጎበዝ አንባቢዎች ዝርዝር ውስጥ ስሜን ማየቴ ለእኔ አስፈላጊ ነው።					

ክፍል III

የንባብ ስትራቴጂዎች ዝርዝር (ስሪት 1.0)

መመርያ - ከዚህ በታች የተዘረዘሩት ሰዎች ከአካዳሚክ ወይም ከትምህርት ቤት ጋር የተዛመዱ ቁሳቁሶችን ሲያነቡ ምን እንደሚያደርጉ መግለጫዎች ናቸው ።አምስት ቁጥሮች እያንዳንዱን መግለጫ ይከተላሉ (1 ፣ 2 ፣ 3 ፣ 4 ፣ 5) ፣ እና እያንዳንዱ ቁጥር የሚከተለውን ያሳያል-

1 = በጭራሽ 2 = አልፎ አልፎ 3 = አንዳንድ ጊዜ 4 = ብዙውን ጊዜ 5 = ሁልጊዜ

እያንዳንዱን መግለጫ ካነበቡ በኋላ የቀረቡትን ልኬቶች በመጠቀም እርስዎን የሚወክለውን ቁጥር (1 ፣ 2 ፣ 3 ፣ 4 ወይም 5) ያክብቡ። እባክዎን በዚህ ክምችት ውስጥ ላሉት መግለጫዎች ትክክለኛ ወይም የተሳሳቱ መልሶች የሉም።

ዓይነት ስትራቴጂክ	**ሚዛን**

I. ዓለም አቀፍ የንባብ ስልቶች

1. ሳነብ በአእምሮዬ ውስጥ አንድ ዓላማ አለኝ ።	1 2 3 4 5
2. ያነበብኩትን ለመረዳት እንዲረዳኝ ስለማውቀው ነገር አስባለሁ ።	1 2 3 4 5
3. ጽሑፉን ከማንበቤ በፊት ምን እንደ ሆነ ለማየት ጽሑፉን በቅድመ-ዕይታ እመለከታለሁ ።	1 2 3 4 5
4. የጽሑፉ ይዘት ከንባብ ዓላማዬ ጋር ይጣጣም ስለመሆኑ አስባለሁ ።	1 2 3 4 5
5. ጽሑፍ አስቸጋሪ በሚሆንበት ጊዜ ያነበብኩትን ለመረዳት እንዲረዳኝ ጮክ ብዬ አነባለሁ ፡	1 2 3 4 5
6. ምንን በቅርበት ማንበብ እና ምንን ችላ ማለት እንዳለብኝ እወስናለሁ ።	1 2 3 4 5
7. ግንዛቤዬን ለመጨመር ጠረጴዛዎችን ፣ ስዕሎችን እና ስዕሎችን በጽሑፍ እጠቀማለሁ ።	1 2 3 4 5
8. የማነበበውን በደንብ ለመረዳት እንድችል የአውድ ፍንጮችን እጠቀማለሁ ።	1 2 3 4 5
9. ቁልፍ መረጃዎችን ለመለየት እንደ ደመቅ ወይም ቀጠን ያሉ ጽሑፋዊ ድጋፎችን እጠቀማለሁ ።	1 2 3 4 5
10. መጀመሪያ ላይ በዳሰሳ ንበብ የምንባቡን ርዝመት እና አደረጃጀት እለያለሁ ።	1 2 3 4 5
11. እርስ በእርሱ የሚጋጩ መረጃዎች ሲገጥሙኝ መረዳቴን እፈትሻለሁ።	1 2 3 4 5
12. ለማስታወስ እንዲረዳኝ በጽሁፉ ውስጥ መረጃን አሰምራለሁ ወይም ክብ አደርጋለሁ ።	1 2 3 4 5
13. በጽሁፉ ላይ ያለኝ ግምቶች ትክክል ወይም የተሳሳቱ መሆናቸውን አጣራለሁ ።	1 2 3 4 5

II.ችግር ፈቺ የንባብ ስልቶች

14. እያነበብኩ ያለውን መረዳቴን እርግጠኛ ለመሆን በዝግታ ግን በጥንቃቄ አነባለሁ ። 1 2 3 4 5

15. ትኩረቴን ባጣሁ ጊዜ ወደ መንገዴ ለመመለስ እሞክራለሁ ። 1 2 3 4 5

16. የማነበበውን ነገር መሰረት በማድረግ የንባብ ፍጥነቴን አስተካክላለሁ ። 1 2 3 4 5

17. ጽሑፍ አስቸጋሪ በሚሆንበት ጊዜ የማነበውን በትኩረት እከታተላለሁ ። 1 2 3 4 5

18. ሳነብ በየመሀሉ ቆም ብዬ የማነበውን ነገር አስባለሁ ። 1 2 3 4 5

19. ያነበብኩትን ለማስታወስ እና ለመርዳት መረጃን በምስል ለመሳል እሞክራለሁ ። 1 2 3 4 5

20. ጽሑፉ አስቸጋሪ በሚሆንበት ጊዜ ግንዛቤዬን ለመጨመር እንደገና አነባለሁ ። 1 2 3 4 5

21. የማላቃውቸን ቃላት ወይም ሀረጎች ትርጉም ለመገመት እሞክራለሁ ። 1 2 3 4 5

III. ደጋፊ የንባብ ስልቶች

22. ያነበብኩትን ለመረዳት እንዲረዳኝ በማንባብ ጊዜ ማስታወሻዎችን እይዛለሁ ። 1 2 3 4 5

23. በጽሁፉ ውስጥ የቀረቡትን መረጃዎች ጥልቅ ትንተና እና ግምገማ አደርጋለሁ ። 1 2 3 4 5

24. በጽሁፉ ውስጥ ጠቃሚ መረጃዎችን ለማንፀባረቅ ያነበብኩትን አጠቃልላለሁ። 1 2 3 4 5

25. መረዳቴን ለማጣራት ያነበብኩትን ከሌሎች ጋር እወያያለሁ። 1 2 3 4 5

26. ሳነብ መጽሀፉ ምን እንደ ሆነ ለመገመት እሞክራለሁ። 1 2 3 4 5

27. ያነበብኩትን ለመረዳት እንደ መዝገበ ቃላት ያሉ የማጣቀሻ ቁሳቁሶችን እጠቀማለሁ። 1 2 3 4 5

28. ያነበብኩትን የበለጠ ለመረዳት (እንደገና በራሴ ቃላት ሀሳቦችን እገልጻለሁ)። 1 2 3 4 5

29. በጽሁፉ ውስጥ ባሉ ሀሳቦች መካከል ግንኙነቶችን ለማግኘት ወደ ፊት እና ወደ ኋላ እሄዳለሁ። 1 2 3 4 5

30. በጽሑፉ ውስጥ መልስ መስጠት የምወደውን እራሴን እጠይቃለሁ። 1 2 3 4 5

Reading Strategies Inventory

Scoring Rubric

Grade in school: ☐ 9th ☐ 10th ☐ 11th ☐ 12th

1. Write your response to each statement (i.e., 1, 2, 3, 4, or 5) in each of the blanks.
2. Add up the scores under each column. Place the result on the line under each column.
3. Divide the subscale score by the number of statements in each column to get the average for each subscale.
4. Calculate the average for the whole inventory by adding up the subscale scores and dividing by 30.
5. Compare your results to those shown below.
6. Discuss your results with your teacher or tutor.

Global Reading Strategies (GLOB subscale)	**Problem-Solving Strategies (PROB subscale)**	**Support Reading Strategies (SUP subscale)**
1.____	1.____	1.____
2.____	2.____	2.____
3.____	3.____	3.____
4.____	4.____	4.____
5.____	5.____	5.____
6.____	6.____	6.____
7.____	7.____	7.____
8.____	8.____	8.____
9.____		9.____
10.____		
11.____		
12.____		
13.____		

Glob Score = _____ Prob Score = _____ Sup Score = _____ Overall Score=_____

Glob Mean = _____ Prob Mean = _____ Sup Mean = _____Overall Mean=_____

***Key to averages**:* 3.5 or higher high 2.5–3.4 medium 2.4 or lower low

Appendix C

Addis Ababa University

College of Humanities, Language Studies, Journalism and Communication

Department of Foreign Language and Literature

Semi-structured Interview Guide

The objective of this semi-structured interview is for research purpose. You would be requested to list your most preferred instructional practices or strategies to aid students in the development of reading comprehension and use of reading strategies.

1. What is your perception about the role of deaf students' background knowledge to comprehend what they read in EFL?

2. What is your opinion about deaf students' motivation to read?

3. How do you rate the reading comprehension level of your deaf students? (high, average or low explain)

4. Have you ever taught the different reading strategies for your deaf students? For instance:

I. Global Reading Strategies

1. Let students have a purpose in mind when they read.
2. Let students think about what they know to help them understand what they read.
3. Let students preview the text to see what it's about before reading it.
4. Let students decide what to read closely and what to ignore.
5. Let students use tables, figures, and pictures in text to increase their understanding.\

II. Problem-Solving Reading Strategies

1. Let students read slowly but carefully to be sure they understand what they are reading.
2. Let students try to get back on track when they lose concentration.
3. Let students adjust their reading speed according to what they are reading.
4. When text becomes difficult, let students pay closer attention to what they are reading.

III. Support Reading Strategies

1. Let students take notes while reading to help them understand what they read.
2. Let students critically analyze and evaluate the information presented in the text.
3. Let students summarize what they read to reflect on important information in the text.

_____

_____

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5. If your answer for question number 4 is yes, which of the three strategies have you emphasized on?

_____

_____

_____

_____.

6. If you have not taught the strategies at all, explain your reason.

_____

_____

_____

7. Which of the three reading strategies do you think your deaf students have mastered well and use in their day to day reading comprehension?

_____

_____

_____

_____ .

Appendix D

Interview Transcription of Teacher A (TA)

1. What is your perception about the role of deaf students' background knowledge to comprehend what they read in EFL?

I: 1.1 Do you think it helps students to understand, recall, read and predict the text easily and quickly?

TA: Yes, I believe that deaf students' background knowledge help them to understand, recall, read and predict the text easily and quickly. …eee …I have checked this when my students read topics related to Ethiopian culture and environment understanding it very well than foreign cultures. Therefore, I can say background knowledge is important to comprehend what they read in ELT.

I: 1.2 What else the role of background knowledge in linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge?

TA: I know that background knowledge has many important but am not sure its important for linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge. Actually, my students guess the main ideas when reading topics related to our culture but I don't know about the other issues.

I: Thank you let me go to…the second question.

I: 2. What is your opinion about deaf students' motivation to read?

I: 2.1. Do you think they are intrinsically motivated? I.e. do they love reading, are they ready to face challenge and read effectively?

TA: OK, the concept is needs some clarification, but I can say something about their interest to read….they like to read short passages.

I: What kind of contents?

TA: …contents like sport and technology

I: Well, are they ready to face challenge and read effectively

TA: No, only when they read topics mentioned above …yes face challenges and do activities well.

I: Sorry, well means, do they score high results?

TA: I mean they are not willing to do all topics activities, score not high results but medium.

I: Thank you. The other question…

I: 2.2 Do you think they are extrinsically motivated? I.e. do they read to get grades, recognition, compliments and/or compete with others?

TA: yeah… they like marks, recognitions, compliments to compete with others. Therefore, I give them marks sometimes to initiate others to read. I sometimes make students clap their hands for those read and answer questions in my class.

I: Thank you.

I: 3. How do you rate the reading comprehension level of your deaf students? (high, average or low explain)

TA: It is possible to rate the reading comprehension level of your deaf students by using the given mechanism or Method by categorizing them in their level (high ,average or low)by using different reading materials like tables, figures, chalk board, picture chart, text tree, house wall and the real object which clear and abstract and let them to read more.

I: Therefore, what level are they?

TA: Low, I can say.

I: 4. Have you ever taught the different reading strategies for your deaf students? For example:

I. Global Reading Strategies

1. Let students have a purpose in mind when they read.
2. Let students think about what they know to help them understand what they read.

3. Let students preview the text to see what it's about before reading it.
4. Let students decide what to read closely and what to ignore.

5. Let students use tables, figures, and pictures in text to increase their understanding.

II. Problem-Solving Reading Strategies

1. Let students read slowly but carefully to be sure they understand what they are reading.
2. Let students try to get back on track when they lose concentration.
3. Let students adjust their reading speed according to what they are reading.
4. When text becomes difficult, let students pay closer attention to what they are reading.

III. Support Reading Strategies

1. Let students take notes while reading to help them understand what they read.
2. Let students critically analyze and evaluate the information presented in the text.
3. Let students summarize what they read to reflect on important information in the text.

TA: Yes, I have taught the different reading strategies.

I: 5. Ok, if your answer for question number 4 is yes, which of the three strategies have you emphasized on?

TA: Global reading strategies

-I let students have a purpose in mind when they read .

-I let students decide what to read closely and what to ignore

I: 6. If you have not taught the strategies at all, explain your reason.

I: 7. Which f the three reading strategies do you think your deaf students have mastered well and use in their day to day reading comprehension?

TA: Support reading strategies because they always need want hand when they reading take note and doing different activities in their participation.
I: Thank you. We have done.
TA: Ok.

Interview Transcription of Teacher B (TB)

I: 1. What is your perception about the role of deaf students' background knowledge to comprehend what they read in ELT?

TB: Well, in general background knowledge is important or for understanding what they read but deaf students have normally have less background knowledge due to the limitation or barrier of language problem. They can't understand the language spoken in their areas in the community because their language is sign language. Since the sign language isn't common in the citie. They have less background knowledge. So due to that they can't employ much background knowledge during reading so that background knowledge is less important.

I: 1.1 Do you think it helps students to understand, recall, read and predict the text easily and quickly?

TB: Yeah, background knowledge is important to und the text what you read. For this reason as a teacher I encourage my students to employ their background knowledge to relate with what they read and understand. Being deaf student they are expected to have less background knowledge they don't understand or they can hear the spoken language around their citie. So, as much as I can I allow them give them some information to get background knowledge to load them with background knowledge that they can apply that background knowledge while they are reading.

I: Alright, thank you. One more issue still regarding background knowledge. You said it is less important to reading comprehension.

TB: Eee…I don't mean less important, but they employ less background knowledge.

I: Alright

TB: It is important but as a teacher we try to have exposure for different things. For example watching a television and involving some events but when it is compared to hearing students, they don't have much background knowledge.

I; 1.2 What else the role of background knowledge in linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge?

TB: Yeah, of course as a teacher when you teach even grammar and etc. with context events to teach them …to help them understand the linguistic structure. So unless they have background knowledge, how can you teach them with their experience and understand? So it is very important to solve such kind of linguistic problems.

I: Thank you let me go to…the second question.

I: 2. What is your opinion about deaf students' motivation to read?

TB: By the way, you have come to interview me this research while I was bothering how to motivate my students for reading, I was using applying different ways methods to motivate them. They are less interested in reading. When I teach them grammar, they are interested. When I give them reading activities, they are less interested. They are less motivated even when I give them assignment, reading assignments; most of them come to class without reading. So what I try to motivate them is I tell them the importance of reading. I tell them that reading helps them to get information, new information and increase their vocabulary knowledge, etcetera. I advise them by giving them advice. And besides, I divide the text, reading passage, into paragraph and divide into groups so that they share it. I try to simplify the passage and use the different methods to motivate them.

I: Thank you.

I: 2.1 Do you think they are intrinsically motivated? I.e. do they love reading, are they ready to face challenge and read effectively?

TB: No, they are not. One reason for their less internal motivation is that as they mentioned to me, they lack knowledge of new words, they....some meaning block for them. Besides that, texts title are not interesting. Full of facts not creative writings...story. Instead of that, for example, you have topics passages that they get in other subjects. For example: computer science, Eretria. The titles of reading passage are not interesting. You know facts, full of facts.

2.2 Do you think they are extrinsically motivated? I.e. do they read to get grades, recognition, compliments and/or compete with others?

TB: So I have to use my own motivation. External motivation they need.

I: 3. How do you rate the reading comprehension level of your deaf students? (high, average or low explain)

TB: In general, .they are both …some are low and average. They are between average and low.

I: Alright. Thank you so much. Let's go to question number 4.

I: 4. Have you ever taught the different reading strategies for your deaf students? For example:

I. Global Reading Strategies

1. Let students have a purpose in mind when they read.
2. Let students think about what they know to help them understand what they read.
3. Let students preview the text to see what it's about before reading it.
4. Let students decide what to read closely and what to ignore.
5. Let students use tables, figures, and pictures in text to increase their understanding.

II. Problem-Solving Reading Strategies

1. Let students read slowly but carefully to be sure they understand what they are reading.
2. Let students try to get back on track when they lose concentration.
3. Let students adjust their reading speed according to what they are reading.
4. When text becomes difficult, let students pay closer attention to what they are reading.

III. Support Reading Strategies

1. Let students take notes while reading to help them understand what they read.
2. Let students critically analyze and evaluate the information presented in the text.
3. Let students summarize what they read to reflect on important information in the text.

TB: Yeah, I use all of them. But not because I know these are global reading strategies but I apply all these in one way or another way. I use them, I apply. For example, I don't know where in which you classified but what I do is I let them read before that I tell them to focus on the main and supportive ideas / points. There are information in main and supportive ideas. So instead of sometimes u know as beginner readers they bother about meaning of words each word. Instead of

bother about meaning of words each words I tell them to focus on the general idea and main idea that they can grasp from the reading passage. When they come across new word, I advise them to guess the meaning from the context. These are Problem solving strategies by the way. And… and I ask them to retell the story what to summarize and retell the main ideas they learnt from the reading passage. These are all.

I: The strategies you employ.

I: 5. Well, if your answer for question number 4 is yes, which of the three strategies have you emphasized on?

TB: Ok. For example, I make them have purpose in their mind. Related to global reading strategies, Purpose for exam when I let them to get/read points … the main points/ ideas of the pass that mean in other words I am giving them purpose in so I employ global reading strategies this way. …Letting students to think about what they know to help them to under what they read…yeah I employ background know if they have related to the topic. When we come to the second problem-solving strategies…related to this ….yeah there're are different types of reading strategies apart from these mentioned strategies. We know such as…skimming, scanning ... etc. Somehow I employ that…slowly reading for detail information and in hurry for scanning or main ideas I do that from problem-solving strategies. Anyways in reading, they encounter problems while reading, I use my own mechanism to solve… to help them solve their problems while they are reading. So, related to support reading strategies …take notes… yeah I usually tell them to make notes new words in their reading… underline or circle or mark with pencil the new words and record them that they can refer or look up their meaning in a dictionary. Not every reading by interrupting their reading but at the end. What I advise them is to focus on the general idea not each word. Not knowing each word does not stop them understand the entire meaning of the passage. I tell them that. They take notes also.

I: So what can we say, which of the three reading strategies emphasized on?

TB: Specifically, the 1st one is I focused on. …the main purpose…global reading strategies.

I: 6. If you have not taught the strategies at all, explain your reason. This won't need answer, you said, global reading strategies. Let's go to the last question.

I: 7. Which f the three reading strategies do you think your deaf students have mastered well and use in their day to day reading comprehension?

TB: Yeah. The 1st one because they for example… I want them keep purpose in their mind… is that every paragraph of the reading has main point. So I make them to find out the main ideas of each paragraph. That is the purpose that I make them bear in their mind before they read. So purpose you know…When they read and at the end of reading I make them retell in sign or in their own language. To retell what the main idea of each paragraph and general the topic… what is all about the passage. That is also I think that so important for them. Once thy have mastered these reading strategies, they can ... it helps them for their academic study as well to go further in their learning other subjects.

I: Thank you indeed. We have done.

TB: you are welcome.

Interview Transcription of Teacher C (TC)

I: 1. What is your perception about the role of deaf students' background knowledge to comprehend what they read in ELT?

I: 1.1 Do you think it helps students to understand, recall, read and predict the text easily and quickly?

TC: Yes, I think so. Deaf students' background knowledge helps them to understand, recall, read and predict the passage they read in ELT easily and quickly. For example, they raise their hands eagerly to read passages with topics they have hints… Even they distribute the class saying teacher… teacher…. That's why I said 'yes, I think so.'

I; 1.2 What else the role of background knowledge in linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge?

TC: Of course, background knowledge uses to identify, link and focus on the main ideas in the text easily… And… overcoming limited linguistic knowledge? I think that… if students have language problems, background knowledge (vocabulary) can solve it.

I: Thank you let me go to…the second question.

I: 2. What is your opinion about deaf students' motivation to read?

> I: 2.1 Do you think they are intrinsically motivated? I.e. do they love reading, are they ready to face challenge and read effectively?

TC: No, I am not sure whether the deaf students internally motivated or not because I don't know sign language.

I: No way, for example, have you ever compared their performances of activities of topics of Ethiopian culture and foreign culture texts? On which of the two they do well?

TC: …on activities of topics of Ethiopian culture texts.

I: OK, their curiosity matters (intrinsically motivated).

I: Are they ready to face challenge and read effectively?

TC: Yes, they face challenges and read effectively.

I: Thank you. The other question…

2.2 Do you think they are extrinsically motivated? I.e. do they read to get grades, recognition, compliments and/or compete with others?

TC: Of course… students like marks but recognitions, compliments to compete with others are none of their businesses. Therefore, I give them marks sometimes to initiate others to read. I sometimes make students clap their hands for those read and answer questions in my class.
I: Thank you.

I: 3. How do you rate the reading comprehension level of your deaf students? (high, average or low explain)

TC: Average this was happened rise of the inclusive class teaching most of the time the teacher give reading opportunity for hearing/ hard of hearing students because of the hearing able students the reason is all the school teachers cannot get it language training when we compare with special need teachers

I: 4. Have you ever taught the different reading strategies for your deaf students? For example:

I. Global Reading Strategies

1. Let students have a purpose in mind when they read.
2. Let students think about what they know to help them understand what they read.
3. Let students preview the text to see what it's about before reading it.
4. Let students decide what to read closely and what to ignore.
5. Let students use tables, figures, and pictures in text to increase their understanding.

II. Problem-Solving Reading Strategies

1. Let students read slowly but carefully to be sure they understand what they are reading.
2. Let students try to get back on track when they lose concentration.

3. Let students adjust their reading speed according to what they are reading.
4. When text becomes difficult, let students pay closer attention to what they are reading.

III. Support Reading Strategies

1. Let students take notes while reading to help them understand what they read.
2. Let students critically analyze and evaluate the information presented in the text.
3. Let students summarize what they read to reflect on important information in the text.

TC: Yes, I have.

I: 5. Well, if your answer for question number 4 is yes, which of the three strategies have you emphasized on?

TC: Slowly reading, quickly reading whole comprehensive reading and additionally, I use different reading strategies for example: global reading strategies, problem solving strategies, support reading strategies. I emphasized on global reading strategies it increase the understanding degree remembering ability, know preview point before reading and it creates closely relationships with reading mate.

I: 6. If you have not taught the strategies at all, explain your reason. This won't need answer, let's go to the last question.

I: 7. Which f the three reading strategies do you think your deaf students have mastered well and use in their day to day reading comprehension?

TC: …Eee… My deaf students have well mastered on the support reading strategies because the need the teacher guidelines I make comfort on the me I make understanding what they read depending on their little disability.

I: Thank you indeed. We have done.

TC: you are welcome.

Interview Transcription of Teacher D (TD)

I: 1.What is your perception about the role of deaf students' background knowledge to comprehend what they read in ELT?

TD: background knowledge is necessary for readers to comprehend what they are reading, but deaf students typically have less background knowledge because of language communication difficulties. As deaf students speak sign language, they are unable to understand the language used in their community. Since sign language is not widely used in the locality. They know less about the subject. Because of this, students are unable to use much background information while reading.

I: 1.1 Do you think it helps students to understand, recall, read and predict the text easily and quickly?

TD: Yes, prior knowledge helps to understand the content that you read. That's why I want my pupils to use their prior knowledge to contextualize and relate what they read and comprehend. In order to provide them with as much background information as possible so they can apply it while reading, I try to provide them information on a variety of topics I bring to my classes. However, deaf students employ less background knowledge than their hearing counter parts.

I: 1.2 What else the role of background knowledge in linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge?

TD: Yes, I teach even grammar and other things in context to assist the students learn and comprehend the linguistic structure. Therefore, background knowledge is crucial to find solutions to these language issues: linking the ideas in the text easily, focusing on the main ideas and overcoming limited linguistic knowledge.

I: Thank you let me go to…the second question.

I: 2. What is your opinion about deaf students' motivation to read?

TD: They have less desire to read. They show attention when I teach them grammar. They show less enthusiasm when I give them reading exercises. Even when I offer them reading tasks, they are less motivated, and the majority of them arrive at class without having read.

I: 2.1 Do you think they are intrinsically motivated? I.e. do they love reading, are they ready to face challenge and read effectively?

TD: No, they are not. Their lack of knowledge of new words or lack of background knowledge rose so far is one factor contributing to their lower internal motivation. In addition to these, the text books designs that lack attractive topics of reading and shortage of pictorial representation of the topics contribute much for their lack of intrinsic motivation.

2.2 Do you think they are extrinsically motivated? I.e. do they read to get grades, recognition, compliments and/or compete with others?

TD: Yes, they are extrinsically motivated. External motivation they need such as: grades, recognition, compliments.

I: Thank you.

I: 3. How do you rate the reading comprehension level of your deaf students? (high, average or low explain)

TD: Their achievements in reading activities are low. I do not know whether this indicates their level of reading comprehension.

I: Alright. Thank you so much. Let's go to question number 4.

I: 4. Have you ever taught the different reading strategies for your deaf students? For example:

I. Global Reading Strategies

1. Let students have a purpose in mind when they read.
2. Let students think about what they know to help them understand what they read.
3. Let students preview the text to see what it's about before reading it.
4. Let students decide what to read closely and what to ignore.
5. Let students use tables, figures, and pictures in text to increase their understanding.

II. Problem-Solving Reading Strategies

1. Let students read slowly but carefully to be sure they understand what they are reading.
2. Let students try to get back on track when they lose concentration.

3. Let students adjust their reading speed according to what they are reading.
4. When text becomes difficult, let students pay closer attention to what they are reading.

III. Support Reading Strategies

1. Let students take notes while reading to help them understand what they read.
2. Let students critically analyze and evaluate the information presented in the text.
3. Let students summarize what they read to reflect on important information in the text.

TD: Yeah, I use all of them. I apply. For example, Before I let them read, I tell them to focus on the main ideas of the reading passage which is global reading strategy. I also tell them to guess the meaning from the context when they come across new word. This is one of Problem solving strategies I think. Besides, I ask them to retell the story to summarize the main ideas they learnt from the reading passage.

I: 5. Well, if your answer for question number 4 is yes, which of the three strategies have you emphasized on?

TD: Well, I help them develop a sense of purpose. Related to global reading skills, I give them a purpose I allow them to read and grasp the key ideas and points of the passage. So I employ global reading strategies. I also employ background knowledge if they have background knowledge related to the topic they read. Regarding the second problem-solving strategies I let my students read slowly but carefully to be sure they understand what they are reading. Anyways in reading, they encounter problems while reading, Similarly, I employ support reading strategies such as: note taking and summarizing.

I: So what can we say, which of the three strategies have you emphasized on?
TD: I think, I incline to the global reading strategies.

I: 6. If you have not taught the strategies at all, explain your reason. This won't need answer, you said, global reading strategies. Let's go to the last question.

I: 7. Which of the three reading strategies do you think your deaf students have mastered well and use in their day to day reading comprehension?

TB: I think still global reading strategies. I want students to remember that each paragraph in the reading has a main theme. I therefore force them to determine each paragraph's major concepts. Therefore, this indicates that my students usually practice finding out main ideas of a given reading text and master this strategy more than the other strategies types.

I: Thank you indeed. We have done.

TD: you are welcome.