



Assessing Reading Strategies Use of Deaf Students of Mekane Eyesus School for the Deaf

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Abstract: The ultimate purpose of reading is to understand what you're reading. However, attaining grade-appropriate reading comprehension levels provides a unique difficulty for deaf and hard-of-hearing (d/hh) students. Accordingly, it assess reading comprehension strategies use of each of the grades 5-12 and determines the overall reading comprehension strategies use of all the participant deaf students of MekaneEyesus School for the Deaf. For the investigation, a descriptive research design was chosen to describe the different reading comprehension strategies use of deaf students. Twenty one grade 5-12 deaf students were selected randomly to be included in this pilot study. The data were collected through Cognitive Awareness of Reading Strategies Inventory (CARSI) adapted based on the objectives of the study and its related literature. The results of the survey were evaluated with descriptive statistics in SPSS Version 21 (mean, std. deviation, frequency and percentage). The results revealed that medium level global reading strategies subscale use mean ($M = 3.26$, $SD = .69$) with the majority of the sample 10 (47.6%) reporting medium level use of Global Strategies use. On the other hand, problem-solving strategies use subscale mean was ($M = 3.67$, $SD = .69$) with the majority of the sample 15 (71.4%), reported high level use of Problem solving strategies and Support strategies usesubscale mean was ($M = 3.6$, $SD = .81$), with more than half of the sample, 13 (61.9%), reported high level use of Support strategies use. However, the Overall strategies use mean was ($M = 3.47$, $SD = .61$), with the majority of the sample 11 (52.4%), reported medium level use of Overall strategies. Based on the main findings synthesized above the problem solving reading strategies appeared to be used more frequently than the other strategy types in this study. Apart from that, it appeared that support reading strategies were the next most commonly employed strategy and global reading strategies, on the other hand, are shown to be the least used reading strategies by pupils. Moreover, Overall strategies use revealed medium level use.

Keywords: Reading Comprehension, Reading Strategies, Deaf/Hard of Hearing, Students

1. Introduction

The ultimate purpose of reading is to understand what you're 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 [1]. "Comprehension is crucially important to the development of children's reading skills and, as a result, to their capacity to get education," according to the National Reading Panel [2]. The UN Universal Declaration in 1948 on Human Rights declared ensuring that all youngsters receive an education. Consequently, every country on the planet is working towards that. However, a greater proportion of people are not exercising their right to education for a variety

of reasons in many societies around the world. Disability is one of the barriers to education that many individuals face, among many others. Physical, sensory, intellectual, and mental health impairments affect 10% of the world's children, according to estimates. Developing countries account for about 80% of these disabled youngsters [3]. Hearing loss, which is the focus of this research, is one of the most well-known sensory disorders worldwide. It is the partial or complete loss of the ability to hear (Hard of Hearing) or deafness (Deafness) in a person.

For Students who are deaf or hard of hearing (d/hh) achieving grade-level reading comprehension level presents a specific challenge. Among these problematic issues deaf education and the factors that affect deaf students' learning

place their special position. Deaf education has long struggled to build reading skills in deaf and hard of hearing (d/hh) students that are equivalent to their hearing classmates' literacy accomplishment. There is significant disagreement among professionals who work with d/hh children, such as parents, teachers, medical professionals, and speech pathologists, about whether Sign Language (SL) or spoken English is the best linguistic tool for supporting d/hh children as they develop their English language and literacy skills. Even the factors that influence literacy development in this community are debatable.

According to recent reading study, a student's reading comprehension is hampered by a number of critical elements [4].

For example, phonemic awareness (the ability to process individual letters' sounds), vocabulary skills (during reading, students constantly 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 hampered 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 scholars have emphasized the use of either sign or spoken English in the classroom, focusing on phonological awareness, phonics, and English grammatical structures, presented either verbally or manually through a signed representation of English. However, many children struggled and frequently failed to achieve grade-level reading skills using this system [5]. 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 d/hh students, as they are nearing the finish of their secondary school education, they had a median reading level of grade 4 [6, 7]. 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 [8-10].

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 [11, 12]. In some instances, higher as well as lower reading comprehension levels have been reported.

Therefore, the present study intended to assess the reading comprehension strategies use of deaf students of MekaneEyesus School for the Deaf. Accordingly, the study aimed to achieve the following objectives.

To assess reading comprehension strategies use of the

grades 5-12 deaf students of Mekane Eyesus School for the Deaf.

To determine the overall reading comprehension strategies use of all the participant deaf students of Mekane Eyesus School for the Deaf.

2. Methods

2.1. Study Design

As the study deals with assessing reading comprehension strategies use of deaf students a case study design was used. This design was chosen because of its importance for a study of an instance in action, 'to illustrate a more general principle [13]. A bounded system is represented by a single instance, such as a child, a clique, a class, a school, or a community.' [14]. It offers a one-of-a-kind example of real people in actual situations, allowing readers to grasp concepts more clearly than if they were merely presented with abstract theories or principles. Therefore, in this research, attempted made to investigate the reading comprehension strategies use of a unique students, deaf students. Furthermore, Case studies aim to depict "what it's like" to be in a specific circumstance, to capture the "rich description" and "close up reality." [15]. Furthermore, the results from this kind of study design provide knowledge base for potential hypotheses that direct quasi-experimental and experimental studies [16].

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

2.2. Sources of Data and Population of the Study

The source of data was deaf students of Hossana Mekane Eyesus School for the Deaf. According to the data from the school, there are 220 students from 'o' class up to grade 12 in the 2013 academic year. The students were included as the population of the research. The populations of the research were therefore, 220 students.

2.3. Sample Size

The sample of this pilot study from the population of 220 deaf students enrolled in Mekane Eyesus School for the Deaf, Hossana was 21 deaf students who were attending their education from grade 5 to 12.

2.4. Sampling Technique

The sampling technique which was employed for selecting the participants of this study was purposive sampling. Purposive sampling technique enables researchers select cases satisfactory to the specific needs of a study [17]. Therefore, the main objective of the current study was assessing the present reading comprehension level of grade 5-12 students of Mekane Eyesus School for the Deaf. Grade levels 5 and above in which reading comprehension develops

well were included in the study.

2.5. Data Collection Tool and Procedures

The Students' Questionnaire

A questionnaire is a commonly used and effective tool for gathering survey data by providing organized, frequently numerical data. The major advantage of a questionnaire, according to [18], 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 goal of this survey was to evaluate reading comprehension strategies use of deaf students of MekaneEyesus School for the Deaf. Students are said to be able to express themselves more freely and easily through a questionnaire than when they are questioned to answer the same questions. Moreover, questionnaires are popular for gathering descriptive information and are less expensive [19].

Accordingly, to assess the different reading strategies use, Cognitive Awareness of Reading Strategies Inventory (CARSI)[20] adapted depending on the study's objectives and relevant 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 making educated guesses about the meaning of unfamiliar terms. 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 comprehensible 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. It's worth noting that, according to Oxford's [21] classification, 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.

2.6. Procedures of Data Collection

The data collection procedure was first getting permission to collect data from the deaf students were guaranteed from the school director and then having got the necessary permission, the deaf students completed reading comprehension strategies use questionnaire in the beginning of

first semester of the academic year 2013.

2.7. Data Analysis

The data that were collected from deaf students using the questionnaire were analyzed through descriptive statistics, frequency, percentage, mean and standard deviation to determine reading comprehension strategies use of deaf students. Statistical Package for Social Science software program (SPSS) version 21 was employed to enter, clean and analyze the quantitative data.

2.8. Ethical Issues

Ethical decisions affect everyone's fundamental rights, dignity, and worth, according to [22]. As a result, the researcher requested a permission letter from the Department of Foreign Languages and Literature at A.A.U. to be cautious of ethical implications. The researcher then took the letter to HossanaMekaneEyesus School for the Deaf and explained the research project's overall goal. HossanaMekaneEyesus School for the Deaf, Boarding School Director (Institutional review board) Mr. EyobPolamo, has granted the study to be undertaken in this boarding school. He has also given an oral consent on behalf of the deaf students and the school community in general to provide the research with necessary data stating that "this study is aimed at improving the academic achievement of deaf/ hard of hearing students so offer the study genuine data." Having got the necessary permission from the school director, the researcher asked a sign language interpreter to facilitate communication with deaf students. The consent of participants to participate in the research was obtained prior to the questionnaire administration. The participants were told that their answers would remain anonymous and confidential.

3. Results

3.1. Reading Comprehension Strategies Use of the Grades 5-12 Deaf Students of MekaneEyesus School for the Deaf

Deaf students' profile

The total numbers of deaf student participants were 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 grade 12. Figure 1 bar graph illustrates the grade level students attending, the number of students in each grade level and percentage output of the descriptive statistics.

Accordingly, Cognitive Awareness of Reading Strategies Inventory (CARSI)[20] 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. In addition to this, Oxford's [21] classification,

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), was employed interpretation of the results. Table 1 to Table 4

presented the results of the CARSI from the subscales reading strategies, global, problem solving and support reading strategies to overall reading strategies.

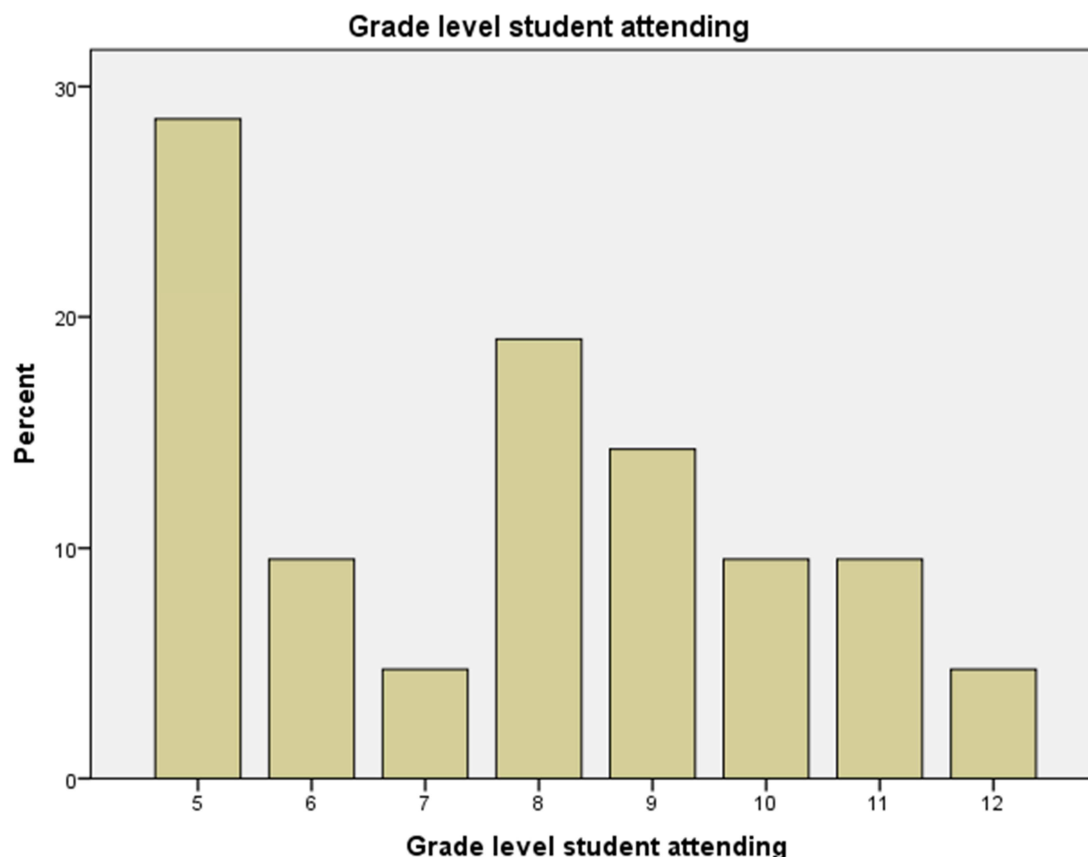


Figure 1. Graphic representation of the deaf students' grade level.

Table 1. Descriptive Statistics of Global Strategies Use Row Score Mean.

Strategies	N	Min.	Max.	Sum	Mean	Std. Deviation
Global Strategies	21	1.69	4.31	68.5	3.26	.691

The table presented the raw score minimum, maximum, mean and std. deviation result of 21 deaf students' responses under the 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 1.69 to 4.31 ($M = 3.26$, $SD = .69$) with the majority of the sample, 10 (47.6%) reporting medium level use of Global Strategies. Low and high level usage of Global strategies were reported by 2 (9.5%) and 9 (42.9%) of the student sample, respectively.

Table 2. Descriptive Statistics of Problem-solving Strategies Use Row Score Mean.

Strategies	N	Min.	Max.	Sum	Mean	Std. Deviation
Problem-solving Strategies	21	2.00	5.00	77.1	3.67	.692

Table 2 above presented the raw score minimum, maximum, mean and std. deviation result of 21 deaf students' responses under the eight Problem- solving 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 subscale mean ranged

from 2 to 5 ($M = 3.67$, $SD = .69$) with the majority of the sample, 15 (71.4%), reported high level use of Problem solving strategies. Low and medium use of Problem solving strategies were reported by 1 (4.8%) and 5 (23.8%) of the sample students, respectively.

Table 3. Descriptive Statistics of Support Strategies Use Row Score Mean.

Strategies	N	Min.	Max.	Sum	Mean	Std. Deviation
Support Strategies	21	1.89	5.00	75.7	3.6	.81

Table 3 above presented the raw score minimum, maximum, mean and std. deviation result of 21 deaf students' responses under the nine Support strategies items for five points likert scale (1=Never, 2 = Occasionally, 3=Sometimes, 4 = Usually and 5 = Always). Accordingly, the raw score of

the Support strategies subscale mean ranged from 1.89 to 5, ($M = 3.6$, $SD = .81$), with more than half of the sample, 13 (61.9%), reported high level use of Support strategies. Low and medium use of support strategies were reported by 2 (9.5%) and 6 (28.6%) percent of the sample, respectively.

Table 4. Descriptive Statistics of Overall Strategies Use Row Score Mean.

Strategies	N	Min.	Max.	Sum	Mean	Std. Deviation
Overall Strategies	21	1.93	4.7	73	3.47	.61

3.2. Overall Reading Comprehension Strategies Use of All the Participant Deaf Students of MekaneEyesus School for the Deaf

Table 4 above presented the raw score minimum, maximum, mean and std. deviation result of 21 deaf students responses under the nine Overall 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 strategies mean ranged from 1.93 to 4.7, ($M = 3.47$, $SD = .61$), with the majority of the sample 11 (52.4%), reported medium level use of Overall strategies. Low and high use were reported by 1 (4.8%) and 9 (42.9%) percent of the student sample, respectively.

4. Discussion

The rationale of this research was to assess the reading comprehension strategies use of deaf students of MekaneEyesus School for the Deaf. The data collected through the questionnaire is addressed in this section in light of the research objectives established at the start of the study.

The first research objective of this research was assessing reading comprehension strategies use of the grades 5-12 deaf students of MekaneEyesus School for the Deaf. Consequently the mean scores for the students' use of the different reading strategies, global, problem solving and support reading strategies in their rank order are (3.26), (3.67) and (3.6) respectively. As a result, as evidenced by the data collected via the questionnaire, the problem solving reading approach appeared to be more widely used than the other strategy types. Apart from that, it appeared that support reading tactics were the next most commonly employed strategy. The mean scores for global reading strategies, on the other hand, are shown to be the least used reading methods by pupils. The majority of students did not routinely plan before reading, did not use tables, figures, or pictures in text to aid comprehension, and did not make educated predictions based on contextual signals when reading, all of which harmed the students' academic progress. Despite the ranking made so deaf students are medium level users of the different reading strategies listed under the Oxford's [21].

On the other hand, 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 [23]. Therefore, the current

study investigation does not support this. The reasons can be constant changes getting in the field of deaf education in the 21st century and the site of the current study being a boarding school, to some extent.

The second objective of the research was determining the overall reading comprehension strategies use of all the participant deaf students of MekaneEyesus School for the Deaf. Similarly, the majority of the sample 11 (52.4%), reported medium level use of Overall strategies. Low and high use were reported by 1 (4.8%) and 9 (42.9%) percent of the student sample, respectively. This overall medium level use of reading strategies revealed in the current study does not go with what have been the literature states about deaf learners, yet. 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 [24, 25].

5. Limitations of the Study

It would have been better and make the results of this study become more trustworthy 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 employ multiple data gathering tools.

6. Summary of the Findings

The focus of this classroom investigation was assessing the reading comprehension strategies use of deaf students. The investigation revolved around two specific research objectives. Assessing reading comprehension strategies use of the grades 5-12 deaf students and determining the overall reading comprehension strategies use of all the participant deaf students of MekaneEyesus School for the Deaf.

For the purpose of gathering the required information, questionnaire was used. to assess the different reading strategies use, Cognitive Awareness of Reading Strategies Inventory (CARS-I)[20] adapted depending on the study's objectives and relevant 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 CARS yields scores in three subtests of global, problem solving and support reading strategies and an overall reading strategies score. All of them were closed-ended and translated into students' mother-tongue or Amharic, by language experts in the field to make it easily comprehensible 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. The results were interpreted using Oxford's [21] classification, 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 findings of the research indicated that the students' use of the various reading strategies, global, problem-solving and support reading strategies in their rank order were (3.26), (3.67) and (3.6) respectively. As a result, it appeared that the problem solving reading technique was utilized more frequently than the other strategy types. Apart from that, it appeared that support reading strategies were the next most commonly employed strategy. The mean scores for global reading strategies, on the other hand, are shown to be the least used reading methods by pupils. Besides, the Overall strategies mean ranged from 1.93 to 4.7, ($M = 3.47$, $SD = .61$), with the majority of the sample 11 (52.4%), reported medium level use of Overall strategies.

7. Conclusions

Based on the main findings synthesized above, this study is able to make the following conclusions regarding the reading comprehension strategies use of deaf students. The investigation revolved around two specific research objectives. Assessing reading comprehension strategies use of the grades 5-12 deaf students and determining the overall reading comprehension strategies use of all the participant deaf students of MekaneEyesus School for the Deaf. As a result, the problem solving reading approach appeared to be used more frequently than the other strategy types in this study. Apart from that, it appeared that support reading strategies were the next most commonly employed strategy. The mean scores for global reading strategies, on the other hand, are shown to be the least used reading methods by pupils. Besides, the Overall strategies use revealed medium level use.

8. Recommendations

The recommendations deal with measures that should be taken to improve deaf students' reading comprehension strategies use of the grades 5 – 12 participant deaf students.

This study revealed Problem solving and Support reading strategies seemed to be used more widely (high strategies use) than the other strategy type, global reading strategies. Therefore, teachers of the deaf learners should work to improve their students' reading comprehension strategies use through strategies instructions, particularly the global strategies use.

In the overall strategies use the study revealed medium level use of all the participant deaf students of Mekane Eyesus School for the Deaf. It is thus necessary that English language teachers of deaf learners develop their expertise and commitment to address these different types of reading strategies use gaps in their reading instruction with the view to enabling students to develop them.

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