



**M.Sc. in Rehabilitation Science**



**Bangladesh Health Professions Institute (BHPI)**

**Faculty of Medicine**

**UNIVERSITY OF DHAKA**

**Learning Disability among the School going Children: A  
Cross-Section Survey in the Community of Bangladesh**

**By  
Jigme Wangchuk**

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Submitted in the Partial Fulfilment of the Requirement of the Degree of  
**Masters of Science in Rehabilitation**

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**BANGLADESH HEALTH PROFESSIONS INSTITUTE  
(BHPI)**

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## DECLARATION

- This work has not been previously accepted in substance for any degree and is not concurrently submitted in candidature for any degree.
- This dissertation is being submitted in partial fulfillment of the requirement for the degree of M.Sc. Rehabilitation Science.
- This dissertation is the result of my own independent work or investigation, except where otherwise stated. The other sources are acknowledged by giving explicit references.
- A bibliography is appended.
- I confirmed that if anything is identified in my work that I have done plagiarism or any form of cheating that will be directly awarded me fail and I am subjected to disciplinary action of the authority.
- I confirmed that the electronic copy is identical to the bound copy of the thesis.

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## LIST OF ACRONYMS

ADHD	:	Attention Deficit and Hyper Activity
ANOVA	:	Analysis of Variance
ARR	:	Action's Recent Report
BEA	:	British Equality Act
BHPI	:	Bangladesh Health Professions Institute
CPD	:	Continual Professional Development
CRP	:	Centre for the Rehabilitation of Paralyzed
DG	:	Director General
Fig	:	Figure
IRB	:	Institutional Review Board
LD	:	Learning Disability
MoE	:	Ministry of Education
M.S	:	Mission School
SEN	:	Special Educational Needs
SPSS	:	Statistical Package for the Social Sciences
TV	:	Television
UK	:	United Kingdom
USOE	:	United States Department of Education
WMTS	:	William and Mary Taylor School

## ABSTRACT

**Background:** Dyslexia is a specific learning disability that is mainly related to nervous system and how the brain works is known as neurobiology. It is categorized mainly by difficulties with accurate word recognition and by poor spelling and decoding abilities. The difficulties such as recognition or accurate words or spelling the words or the decoding of the words are mainly caused by the shortfall of phonological components of the language from their cognitive ability and due to the delivery of effective classroom instructions. The consequences also include problems in reading comprehension or the reading experience that hampers and delays the growth of language and the vocabulary and the background knowledge.

**Objective:** The general objective of this study is to find out the status of learning disability or difficulties among the school going children. Where the specific objectives are (a) To determine the number of students who are at risk of developing learning disability/dyslexia in Special School and Normal School based on Dyslexia Test Score. (b) To find out the relationship between socio-demographic factors and Learning Disability. (c) To compare the student's characteristics in Special School and Normal School.

**Methodology:** The study was selected and designed using descriptive cross-sectional study to conduct this study to fulfill the aims and objectives of the research. This study was the suitable method to find out the objectives of the study as the study analyzes the data from the population selected during the defined time period. With this design the researcher collects the information from the students as cross-sectional studies are observational in nature in descriptive way in which it cannot be predict the cause of the thing or a disease reflected in the information from the population without changing the variables in order to collect the primary data to support additional in the research used to find out the result by SPSS version 21

**Results:** The result shown on in the study were the school children in Special School and Normal School are aged between 7-16 years old. The total number of sample collected was 147. The comparison between prevalence of dyslexia among Special School and Normal School children. In Special School, 88% participants tell that they have dyslexia and 12% participants said that they don't have dyslexia. In Normal School, 90.9% children's have dyslexia and remaining 9.1% participants don't have dyslexia. Normal School children are slightly higher than Special Children in dyslexia

participants. In Special School, the participants are higher in Special School as compare to Normal School children those who don't have dyslexia. The prevalence of students is at more risk of developing learning disability in Normal School than Special School. The result of the study revealed that even though 58-62% of dyslexia students displays the 32 dyslexia symptoms. The study results show that dyslexia students are really have difficulties in reading.

**Conclusion:** It is found out that the children learning mentally effects the psychology and affect the later part of their life to develop and motivate to improve their life and help themselves. Facilitating them by reading to improving both speed and comprehension in a groups of students facing difficulties with the poor reading and writing. It is said that the early identification and intervention can prevent the most serious (learning) difficulties later on or at least we can reduce the severity of the problem. 'Going to school phobia', 'afraid from the teacher phobia' and 'somatic complaints' that they say during the school days are also a sign of a possible learning disability.

**Keywords:** Learning Disability, Dyslexia, Student.

# Chapter I

## INTRODUCTION

### 1.1 Background

Dyslexia is a specific learning disability that is mainly related to nervous system and how the brain works known as neurobiology. It is categorized mainly by difficulties with accurate word recognition and by poor spelling and decoding abilities. The difficulties such as recognition or accurate words or spelling the words or the decoding of the words are mainly caused by the shortfall of phonological components of the language from their cognitive ability and due to the delivery of effective classroom instruction. The consequences also include problems in reading comprehension or the reading experience that hampers and delays the growth of language and the vocabulary and the background knowledge (Lyon et al., 2003).

The introductory sentence directly points out that the dyslexia is a specific Learning Disability (LD) but in general the LD classification contains a wide range of disorders such as listening, speaking, reading, writing and mathematics (USOE,1977). According to the branch of medicine which deals with the incidence, distribution and control of diseases view that the reading disability affects at least 80 percentage of the LD population and it establishes the most prevalent type of LD (Lerner, 1989; Lyon, 1995). Dyslexia is the most misunderstood and confusing term for reading problems. The word dyslexia are made up if two words: *dys* meaning difficult and *lexia* meaning words. Despite being many misunderstandings and confusions. The word is mostly used by the medical personnel, researchers and clinicians. The main and the most common misunderstanding about the dyslexia is a problem of letter or a reversal words like b/d, was/saw which seems like ‘dancing around’ on the page. Actually, reading and writing letters and words backwards are the most common in the early stages of learning to read and write with the average students in the schools. It is a specific LD disability in reading comprehension that effects spelling as well. Such LD are affected around 80% students are being founded. LD are not caused by poverty, developmental delay, speech or hearing or while learning the second language. Such conditions will put a child more risk for developing a reading disability. Children with such problem usually shows two clear difficulties when they are asked to read a text at their reading level. First they won’t able to read as many words from the text as compared to the average students. There will be many words as they stumble, they guess while reading and try to

pronounce to out. Which is called as the fluent word recognition. Secondly, they would face or face difficulties in decoding words, which means they tries to identify words they do not know which ends up with wrong pronunciations. Such problems in reading or recognizing the word or words are due to underlying of primary shortfall in the sound component of language that makes them very difficult for them to read and connect letters and words in order to decode (Hudson et. al., 2021).

The most important part is to identify and recognize that many individuals with dyslexia indications and also its related to such issues or medical conditions denotes they that are simultaneously present in the patient in cognitive or in academic such as in attention (Shankweiler, et al., 1995; B.A. Shaywitz, Fletcher, & S.E. Shaywitz, 1994), mathematics (Fletcher & Loveland, 1986) and spelling and written manifestation (Lindamood, 1994; Moats, 1994). The condition that are simultaneously present in the patent do not reduce the quality that belongs to the particular subject that has proposed to the operational definition of the dyslexia since the cognitive characteristics of the deficits in attention and mathematics are different from the cognitive characteristics which is related to deficits in basic reading skills (Lyon, 1995; Lyon, Fletcher, & Barnes, 2003)

According to the epidemiologic study has found out that the recent data shows that, like hypertension and obesity, dyslexia fits a dimensional model. In the groups, reading ability and reading disability keeps on changing over time with reading disability representing the lower tail of the normal distribution of the reading ability. Dyslexia is the most common neuro-behavioral disorder effecting children with prevalence rates ranging from 5 to 10 percent to 17.5 percent. It was previously believed that the dyslexia were affected only boys but now the recent studies found that boys and girls are effected equally. Dyslexia or the specific learning disability is the most common and studying of learning disabilities has affecting 80 percent of those who are identified as disabled learning (Shaywitz, 1998).

Dyslexia is not considered as the disease, whether we have it or not but it shows a varieties of syndrome that ranges on subjective experiences and difficulties. But as researchers and etiology tells that the and diagnosis of dyslexia which are based on the symptoms are considered as critical. Although they are critically considered but many researchers as said that the dyslexia are a type of learning disability effecting especially language, reading skills, maths skills or the attention deficits. It is also important that the dyslexic shows a variety of different symptoms. The mostly of the dyslexia are



commonly found is a reading disability. Dyslexia is considered as both hereditary and genetic. The affected among the sibling of disability is approximately 40 percent. Family history is the most and common risk factor with 23 percent and as much as 65 percent of those children whose parents with dyslexia history disorder and among the parents it ranges from 27 to 49 percent. Which is with the early identification it helps to reduce such cases but some are delayed but it is more important to identify as early as possible (Yang Yang et al., 2020).

The recent research evidence had found that the reading disability is not 'all or nothing' absence. Rather reading disability of a person should be considered as the range starting from 'very low' to 'very high'. But still it can be considered as almost all the learning disability has some similar indications particularly in the phonological processing. There is also an evidence from the other qualitative studies found out that reading disability is short term deficiency whereby their level of severity does not decrease by the passage of time. The children with and without the signs of reading disorders they keep the same stages of reading skills. The main reason behind the learning disability stated in the recent studies states that the primary difficulty faced by the children with dyslexia is their poor phonological factors. The present researchers are mainly focusing and investigating on the positive outcomes of cognitive disorders on reading disorders. The main concept of this study is to find out the high volume of current research regarding the role of the Attention Deficit and Hyper-Activity Disorder (ADHD) and the memory developmental both on long and short term.

## **1.2 Justification of the Research.**

Why study on dyslexia? The simple answer is; it is a neglected area. Several studies have been done by Orton and Hinshelwood has found both the strength and weakness are in the clinical approach. The study has made detailed observations of the clients' difficulties only focused on clinical setting but not in the day to day world the students lived in (Riddick, 2009). The most important part is a child is mental health. Mental health plays a vital role in the development of the mind, body and speech. The growth and development of the body is the most important for a healthy life.

Many researchers have mostly stated based on social and personal concerns of dyslexia. Such are mostly concluded from the academic research, personal accounts in the form of autobiographies or the case studies. In the informal level, there are more information and opinions by the clinicians and the specialist teachers on the personal consequences of dyslexia and in the general level, there are study based on children's concept as learners (Marsh and O'Mara 2008, Elbaum and Vaughan 2003).

The most of the children in Bangladesh struggle to read and write. The dyslexia are the main cause of reading disability in the schools. Although there are lot of debates about dyslexia. Its origin and remedy, there is no evidence to support that dyslexia exists. Unfortunately, reading disability not identified in the school setting (Ali & Sarwar, 2015).

Sofiah Hamid (1999), reported in his study that Ministry of Education (MoE), teachers and the parents of the student have raised the voice and reported that the students are not proficient in reading in the media and newspapers and also several authorities have raised their concern too about the student's low reading proficiency. The report from the Director General (DG) from the MoE of the Malaysia, there are 6,000 from primary VI students who cannot read properly. With the importance of reading skill, which is the mandatory required as a basic skill as well as they are unsolved issues and needed an intensive study to be carried out.

According to the Action's Recent Report (2013), reported that the teachers do not have the skills to identify and differentiate dyslexic students and other different learners in their classes. They also reported that the importance and lack of Special Educational Needs (SEN) and training for the news teachers and less or minimal Continual Professional Development (CPD) for the current teachers.

Action's Recent Report (2013), found that the teachers lack the skills to effectively differentiate for dyslexic and other different learners in the classes. They also highlight the lack of SEN training for new teachers and infrequent CPD of the current teachers. Educationist experts have put huge an effort in promoting and developing the skills of reading and interpreting in Malay Language subject but due to difficulties in reading skills and ability among the students in the primary and lower schools still prevail in the school.

According to Mohd. Fadzil Haji Hassan (1998), stated that the students reading disability in the school has not been solved still and cannot be overcome from it. In comparison between the children with dyslexic and non-dyslexic are very difficult. Children face challenges every day and becomes more difficult and the characteristics of dyslexic also differs just like the characteristics of non-dyslexic such as learning styles, time, math, memory, recognition, language, reading skills, behavior, vision etc. The children those who are suffering with dyslexia also have the difficulties in organizational or instructional skills. Like instructing them to turn to page number 38, chapter 4, paragraph 3, line 2. The dyslexic children also develop a late developmental stage such as crawling, walking or talking (Essays, UK. November 2018).

The best way is to help the parents and educators make them aware them about the learning disability and give them extra guide will make the huge impact and differences to their future of the children. In this case, a child learns and helps themselves to learn, we need to teach them in the way they learn and understand. Due to poor learning and understanding in the schools. Mates tend to look them down or even bully them or teased them. Where children tend to develop mental illness and it effects child's self-esteem. In the UK, the dyslexic students are given additional 25% of the additional time allocated to write their exam as compare to the non-dyslexic students and according to the British Equality Act (2010), stated that any organization must ensure that the people with disabilities must treat equally and must arrange equally. (Leong, 2015).

### **1.3 Research Question.**

What is the score of dyslexia screening test of the students aged between 7-16 years old in selected schools in Savar region of Bangladesh?

#### **1.4 Operational Definitions**

**Dyslexia:** It is a learning syndrome that a person faces difficulties in reading and writing as they are not able to identify speech, sound and learning how they relate to letters and words (decoding).

**Disability:** It is any physical or mental, or functional deficiency that limits a daily activity partially or completely.

**Learning Difficulty:** It is also known as learning disability, which is defined as problem with the brain's ability to process information where the individuals who suffers from such disability may not learn in the same way as quickly as their peers and be challenges.

**Mindfulness:** It means maintaining a moment by moment awareness of our thoughts, feelings, bodily sensations and surroundings by paying attention in the present moment.

**Reading Disability:** It is a learning disability that a child faces during reading which include issues with phonological processing, reading fluency with the reading speed in reading comprehension.

**Special School:** Is a school which is specifically designed with the specially trained teacher where the students with special need were provided such as learning difficulties, physical difficulties and so on.

**Special Education:** It is a teaching and learning form of education provided to exceptional need students who suffers from learning disabilities or mental challenges.

## 1.5 Conceptual Framework

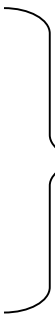
### Independent Variable

#### Demographic Data:

1. Age
2. Gender
3. Grades
4. Living area
5. Father's occupation
6. Mother's occupation
7. Father's qualification
8. Mother's qualification

### Dependent Variable

Dyslexia



#### Other children's characteristics like:

1. No. of family members
2. No. of study hours
3. No. of hours watch TV
4. No. of family members
5. Do parents help with homework?
6. Parents marital status
7. Sleeping time

## **Chapter II**

### **LITERATURE REVIEW**

Dyslexia is a specific learning disability. The sentence itself directly point out that dyslexia is a specific learning disability in contrast generally termed Learning Disability (LD). Whereas the general LD category comprises of wide range of disorders like speaking, reading writing and mathematics (USOE,1977). It was also recommended and stated that the it should be discontinue using the as the learning disability understands in a general where the learning disabilities while debating reading disabilities instead discuss as specific disabilities as defined in terms of clear and comprehensive on operational fields. According to the epidemiologic view reading disabilities affects at least 80% of the LD populations and thus found the most widespread type of LD (Learner, 1989; Lyon, 1995). Moreover, as stated (Lyon, 1995), it is also important to identify each individual with dyslexia taking place between cognitive behaviors and academic areas like attention, mathematics, spelling and written expression (Lyon, 2003).

Dyslexia is both familial and genetic (Pennington, Gilger et. al). family history is one of the most important and significant factors which makes from 23% to 65% of the school going children who's their parents have reported to have dyslexia. Likewise, the percentage within the siblings of affected dyslexia disorder is almost 40% and among them varies from 27% to 49% of the disorder. In which delivers and provides the earliest identification of the affected dyslexic child. But most of the cases are delayed to identify the affected in the adults.

It is also said that the currently most children's reading disability has not been identified until the child reached third grade or about the child is 9 years old. The paper claims that what the child had been learned and understood the with their studied test of phonologic skills makes them easier to identify children with dyslexia even before they start reading the test where they were given earlier and with the appropriate interventions. In similar case the child history of language and speaking delay or not able to attending the sound of the words like pronouncing the rhymes words or confusing words that sound similar. Such factors give the early factors to identifications of dyslexia along with the family history (Sally& Shaywitz, 1998).

The most important is that the lack of accuracy or correct fluency while process of reading the text the dyslexia is perceived and observe in the children is not because of

lower intellectual sensory impairment or academic or the cultural issues. The dyslexia are developed in people in several characteristics. The scientist found out that the dyslexia due to anatomical and as well as cellular and by connecting by using different techniques. It is also varying from different brains of the dyslexic people. This is the main reason that because of the anatomical and neurophysiological differences, people suffering from the dyslexia have a huge difficulties writing where the embarrass themselves and ultimately drop from the school at the early stage of the school. As there is no cure for the dyslexia. The academic performance of the student is achieved depending on the education system and the teaching learning process during the classes without the depending on the relationship between teachers or family members or classmates. The difficulties faced by the student in writing comprises child's learning process in schooling process. In order to improve and help the student in general, it is very important and necessary to identify such issues among the children related to neurological disorder but also the systematic and techniques in order to improve and establish the more on science, health and education systems and researches. Thus, it will help and support basic and early stage of developmental dyslexia and difficulties faced by the children in teaching learning process (Fragel at. El., 2015).

The scientific report and studies state that the dyslexia are a neurobiological disorder dated from the 19<sup>th</sup> century. In 1870-1890s the researchers stated that dyslexia an inability of the individuals to perform individual readings. Another English researcher and a physician, Priangle Morgan in early 1890s described that a 14 years old boy cannot read despite being intelligent. Though he performed well in other field like solving mathematics problems. Although he faced difficulties in reading skills. He was the first person to coin about the 'verbal blindness' stating of a development disorder developing in healthy school going children despite being intelligent and healthy and active in other skills after observing their inability and vision to read as a brain damaged earlier. Another researcher and ophthalmologist Hinshelwood found that the such disorder in the family with four people with the dyslexia founded as a family inherited. There were very less studies made during the twentieth century about the neurobiology based on dyslexia. Later after the development of instrumental technological development in 90s, the functioning of neuroimaging was techniques. It further made the easier to understand the cognitive functions relating to speech and simultaneously on dyslexia (Maderia at. El., 2015).



Almost about the half of the population of the students learning disorders are classified as learning disorders. The most of the beginning of the cases of learning disorders is determined in pre-school age through second grade. reported the highest prevalence of dyslexia in the second grade students about 12 per cent and the lowest in the fifth grade students about 3 per cent. As in the pre learning stage indicates a kind of development delay in language skills. It also delays in learning of new concepts at home or the schools or delay in performing with the peers in the classes. Where such result is mainly found and identified in the form of low scores or in poor learning. Discovering of such learning disorders before entering to the schools is very difficult. Whereas such issues like learning disabilities are being treated but such problems continue to adulthood but with less severity in many school going children. Dyslexia is also a kind of disability when a student despite being normal, active and sound mind has some difficulties in reading disability. Such people suffering from dyslexia may face problems like reading written symbols to speech (reading) and to expressing words to written symbols (spelling and writing). Where it is mainly considered as an issue of processing of an information. As a result, such student who have difficult processing an information including poor visual and auditory perception they will face learn to read harder in future. They also face to identify mirror image letters and words. Where the prevalence of dyslexia in boys is 3 times more than girls. Globally, the statistics shows that the prevalence of dyslexia is 3.5% to 6%. Where it is reported that 12.9% is founded in South East Asian Countries. It is also said that the reported the highest prevalence of dyslexia in the second grade students about 12 per cent and the lowest in the fifth grade students about 3 per cent (Hakim & Ghorbanibirgani, 2015).

During the fundamental level, learning requires it requires the child to set up maps between the letter string of the printed words and the and the sequences of the written words (orthography) to be spoken words (phonology). In this way, the student learns and capture the view and reads well. As the children suffering from the dyslexia have difficulties initially in establishing printed words (orthography) and the spoken words (phonology) (Snowling, 2001).

Generally, reading ability assumes suitable understanding language and a words identified where words are encoded (symbolized) and representing the spoken words. Likewise, the spoken words are encoded to the to environmental experiences. In this cases, the ability to learn to read depends on the gaining of different knowledge and skills. Where reading is the process of extracting and construction of meaning from the

written text. Where reading comprises of development of two different processes: word identification and language comprehension. Where word identification is the verbal retrieval process that involves recognition of familiar word and letters or retrieval of meaning from the words. Language comprehension involves adding the meaning of the spoken words to facilitate the understand the word spoken (Vellunitino et al.,2004).

In the language system, the difference between written and spoken language can provide the justification why reading is difficult and reading is easy. These two relationships between reading and writing language is the main statement that writing is not language but simply a way of recording (spoken) language by a visible mark. Several theories suggested that an explanation reflecting what is known about a relationship between a written and spoken language, the phonological model, which has received the most support. In order to understand why print (written) has meaning and reading represents a challenging. Where we first consider the language system and then why the reading is more difficult than speaking. Spoken language is seen in all the societies on the planet and has been with us for hundreds of years. Where the baby is exposed to a natural speaking environment resulting in the development in the spoken language. The spoken language doesn't need to be specifically taught and even inborn. But in the written language, it is acquired and must be taught. Learning to read requires several skills including an awareness that the spoken language can be divided into smaller elements (that is phonemes), identifying letters, learning how written language into spoken language (Shaywitz et. al., 2008).

Since the human began to read, there have been people who struggled to read the printed word. The question is how we read and why some children and adults struggle to read has challenged generations of investigators to find out the reasons. The very recent study, particularly with the development and arrival of the powerful tools of modern neuroscience, the very act of reading has become visible. In order to understand why the print or written language meant and why the reading is a challenge. We consider in the language system is a conceptualized as a hierarchy of component modules. The lowest level of hierarchy is the phonological module which collects the phonemes into words for the speaker and decodes and take down back to the phonemes for the listeners. During the process of learning to read, for some children, the forbidding steps is recording the letters (orthography) into the sound, which is called phonology. The beginning of the reading instructions focuses on teaching children the rules for reading the orthography, letters into an elemental sounds of spoken language. In the

developmental perspective, firstly children learn to read words by mapping letters to sound and finally they think after reading and rereading a word correctly. In this case, the children can read the word correctly and also fluently. The fluent reading refers to the ability to read the text accurately and also rapidly with the proper expressions. (Shaywitz et. al., 2008).

The developmental dyslexia are a severe and not focusing and validating learning disability that effects the achievement of the learning about 5% of the school population despite normal intelligence and insufficient instruction. The causes of dyslexia are still discussed and debated but the researcher agrees that the main challenge is how to get the dyslexic children to read more words in less time. As the dyslexic child reads same number of words as good reader in 2 days. The most important thing is to focus on the accessibility of the reading materials by manipulating the physical properties of the written letters like size of the word, font of the word etc. The most important is the public policy implications due to the high and increasing demand of literacy in the global economy. Therefore, early identification and treatment of children with dyslexia is an important goal (Zorzi et al., 2012)

## **Chapter III**

### **RESEARCH METHODOLOGY**

#### **3.1 Study Objectives:**

##### ***3.1.1 General Objective:***

- To find out the status of learning disability/difficulties among the school going children.

##### ***3.1.2 Specific Objectives:***

- To determine the number of students who are at risk of developing learning disability or dyslexia in Special School and Normal School based Dyslexia Test Score.
- To find out the relationship between socio-demographic factors and learning disability.
- To compare the student's characteristics in Special School and Normal School.

### ***3.2 Study Design***

The descriptive cross-sectional design was selected to conduct this study to fulfill the aims and objectives of the research. This study was the suitable method to find out the objectives of the study as the study analyzes the data from the population collected during the defined time. With this design the researcher collects the information from the students as studies are observational in nature in descriptive way in which it cannot be predict the cause of the thing or a disease reflected in the information from the population without changing the variables in order to collect the primary data to support additional in the research.

### ***3.3 Study Population***

The study populations are the students of schools in Savar, Bangladesh.

### ***3.4 Study Area/Site***

The study area/site of this study is William and Marie Taylor Inclusive School of CRP and the Mission School of Savar, Bangladesh. Students in the primary classes have trouble time in reading, writing and identifying as the word or letters looks similar or has same pronunciation in the English text. As the research is on the learning disability, primary schools' children students were the best to collect the information.

### ***3.5 Study Period***

The study was conducted from September 2019 to April 2020, including the data collection, data analysis and write ups.

### ***3.6 Sample Size***

The study sample was determined by using the formula:

$$n = \frac{z^2 p(1-p)}{d^2}$$

Where n = the maximum sample size.

Z = level of statistical significance (1.96 for 95% confidence level)

P = Expected proportion in population based on previous study (P=9.02%). (Ali & Sarwar, 2015).

$d$  = Absolute error or precision or level of significance - decided by the researcher (0.05).

$$n = \frac{z^2 p(1-p)}{d^2}$$

$$n = \frac{1.96^2 \times 0.09 \times (1-0.09)}{0.05^2}$$

$$n = 125.8$$

### ***3.7 Sampling Technique***

The purposive sampling technique was used to study this study. The researcher intentionally selects the subject for the sample respondents. The researcher to deliberate based on the pre-defined criteria and to get samples easily with the respondents met the study criteria. With this technique, the researcher relies on his or her own judgment when choosing the members of the population to participate the study. The language barrier and limited time are the considerable issue as one of the main purpose of this study to fulfill this academic requirement. The participants are selected on basis of the inclusion criteria to find out the actual snapshot of the study. The purposive sampling is used to fulfill a very precise function as it in non-representative subset of bigger population.

### ***3.8 Data Collection Tools/Materials***

The socio-demographic profile questionnaire was developed by the researcher and include items related to the personal characteristics such as age, gender class, living area etc... to determine the history of the participants (Appendix: A1). Dyslexia Screening Test developed by Harp Learning Institute (Appendix: A2) will be used to find the risk of developing dyslexia.

### ***3.9 Data Management and Analysis***

Data were checked, edited, corrected, computed and analyzed using the SPSS software (Version 21) using descriptive analytical method. The data were investigated the missing values and errors before analyzing. The missing values of the data and findings stated that the values missing were of very less concern for the current data. The missing data was minimum and the patterns of the missing values were not found.

Descriptive analyses were completed to examine with the socio-demographic characteristics of the sample. The distribution of data and result will be shown in bar graphs, pie charts and tables and it is also done in correlation, Mann-Whitney U test and ANOVA test to find the association between socio-demographical status and Dyslexia Screening Score. ANOVA test is used to compare the scoring among students studying in Special School and the Normal School.

### ***3.10 Quality Control and Quality Assurance***

The quality control and quality assurance was maintained by selecting participants as strictly adherence to the proposed criteria and used the screening tool as it is without converting to Bangla language. The guidance and help from the supervisor was taken in every process. The data was collected by researcher himself with the help of the class teacher of the particular classes. The pilot testing was done in order to make sure the students understand and data has checked and rechecked for the reliability.

### ***3.11 Ethical Consideration***

The research proposal was submitted to the IRB of BHPI and approval was obtained from the Research and Evaluation Unit, CRP, Savar and from the principals of both the school with the written consent (Appendix: A4) and the confidentiality of the information was maintained and the participants were given rights to refuse withdraw from the study, if they feel disturbed or any matters.

### ***3.12 Inclusion Criteria***

1. Both girls and boys were included.
2. Students aged between 7-16 years.
3. Students in primary school till grade V.

### ***3.13 Exclusion Criteria***

1. Students higher than SSC.
2. Students who are not willing to participate.

## Chapter IV RESULTS

### 4.1. Prevalence of students who are at risk of developing learning disability or dyslexia in Special School and Normal School.

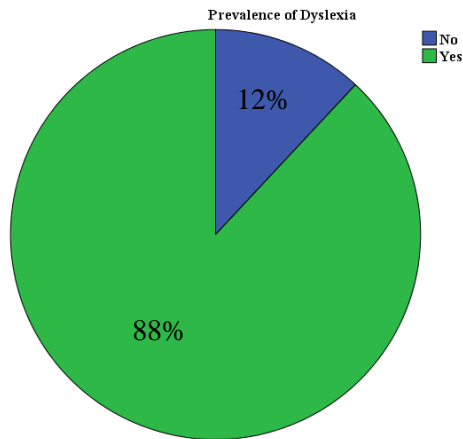


Fig. 1: Prevalence of dyslexia among Special School children.

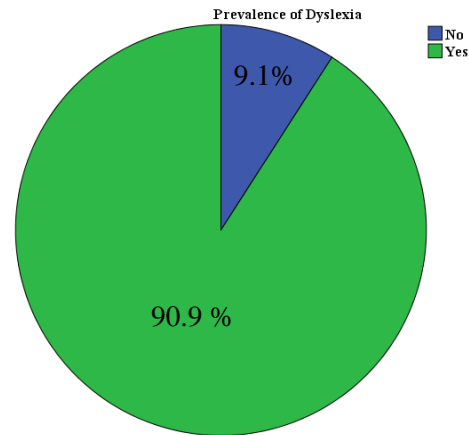


Fig. 2: Prevalence of dyslexia among Normal School children.

The given above pie chart represents the comparison between the prevalence of dyslexia among Special School and Normal School children. In Special School 88% participants tell that they have dyslexia and 12% participants don't have dyslexia. In Normal School, 90.9% children's have dyslexia and remaining 9.1% participants don't have dyslexia. Normal children are slightly higher than special children with compared to dyslexia participants. In Special School, participants are higher in Special School as compare to Normal School children those who don't have dyslexia. The prevalence of students is at more risk of developing learning disability in Normal School than in Special School.



#### 4.2. Analysis of socio-demographic information.

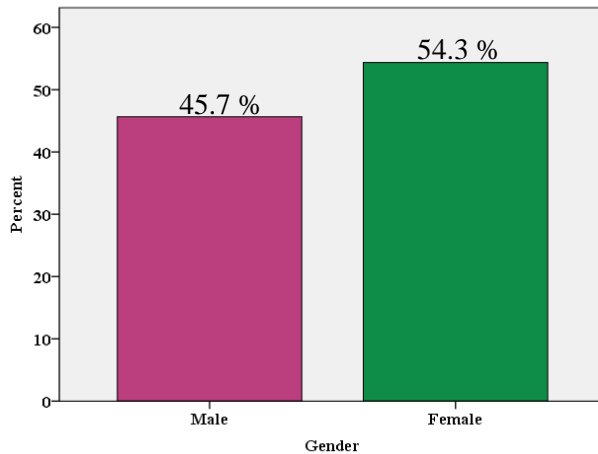


Fig. 3: Gender variations for Special School children.

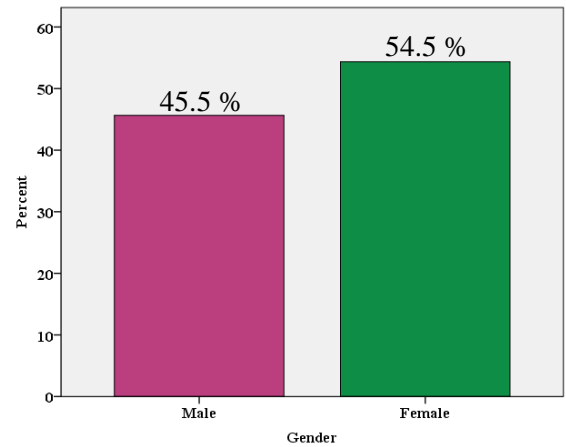


Fig. 4: Gender variations for Normal School children.

The given bar graph presents the socio-demographic information between Special School and Normal School. The graph shown in two colors, pink color is for male and green color is for female. In Special School, female (54.3%) has higher percentage than male (45.7%). In Normal School, male (45.5%) have lower percentage than female (54.5%). Female has more percentage in Normal School (54.5%) as compare to Special School (54.5%). Male have slightly higher percentage in Special School as compare to Normal School.

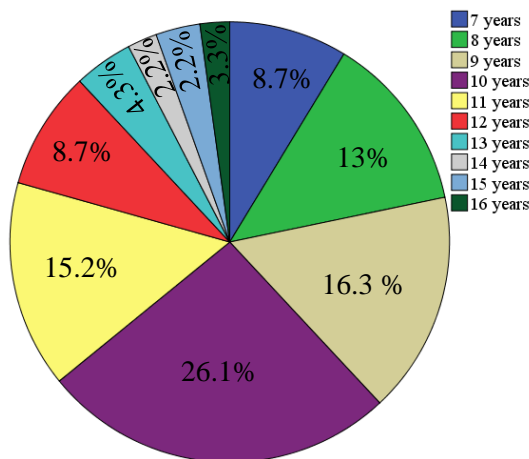


Fig. 5: Age variations for Special School children.

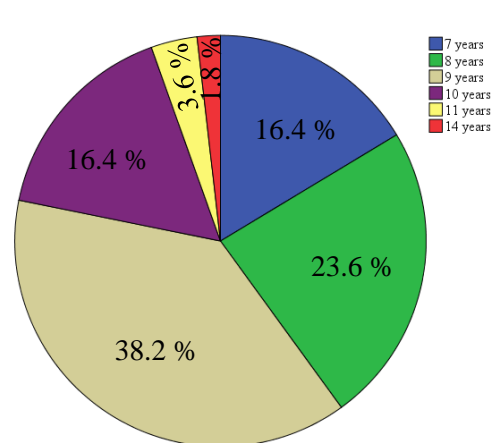


Fig. 6: Age variations for Normal School children.

In given pie chart represents the age and gender variation in Special and Normal Schools. Children are from 7 years old to 16 years old. In age variation graph, 26% majority are from 7 years and second highest percentage students from 8 years, whereas 38.2% children from 9 years old. In gender group, maximum number of students are

from 9 years old children and minimum 14 years old. 7 years and 10 years old group has similar percentage. In the age group, the highest numbers of students are from 10 years old Special School children. Whereas minimum Special School children are 16 years old. As compared in both the diagram in 8 years, gender have more percentage 23.6% than age percentage 13%. Different age groups are shown with different colors.

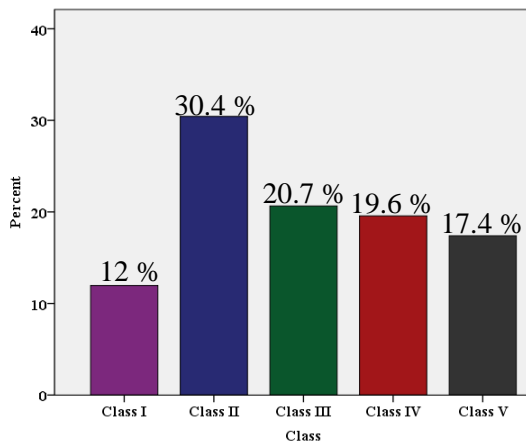


Fig. 7: Class variations for Special School children.

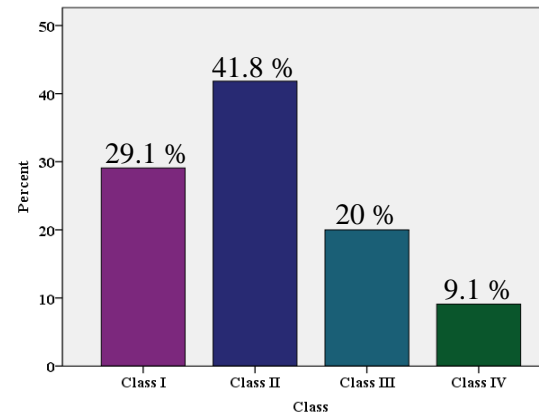


Fig. 8: Class variations for Normal School children.

In given table shows that different classes from Class I to Class V in Special and Normal school children. The highest number of children (30.4%) is in Class II and the least number of children (12%) is in class I. The special students Class III, Class IV and Class V are slightly lower than class II but higher than Class I. In Normal School, the maximum number of children is in Class II but the least number of students in Class V. In Normal School Class I, Class III and Class IV are lower than Class II but higher than Class IV.

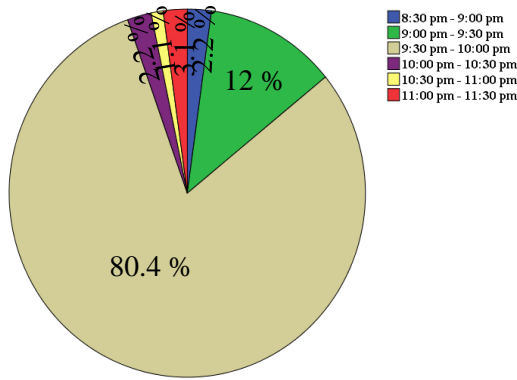


Fig. 9: Sleeping time pattern variations for Special School children.

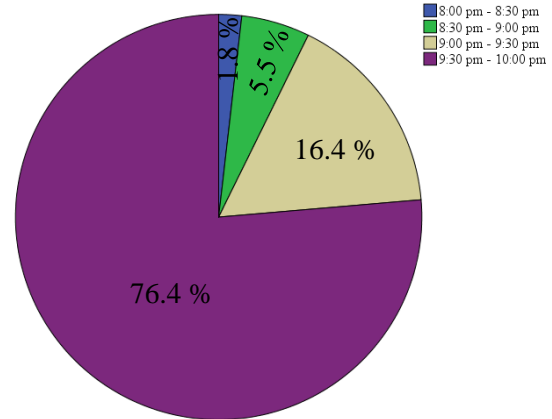


Fig. 10: Sleeping time pattern variations for Normal School children.

The graph depicts that the sleeping time of children in Special and Normal School. In Special School, the maximum (80.4%) number of children usually sleep between 9:30 pm to 10:00 pm. Whereas in Normal School (76.4%) number of children sleeps at 8:00 pm to 8:30 pm in Normal School. The second highest number of participant's sleeping timing is 9:00 pm to 9:30 pm. 12% of Special School children is sleeping between 9:00 pm to 9:30 pm. Only fewer numbers of children have different sleeping pattern in the late night. The normal children sleeping pattern sleeps early is at 8:00 pm to 8:30 pm to 9:00 pm to 9:30 pm. In both Normal and Special School children has different sleeping pattern according to different time.

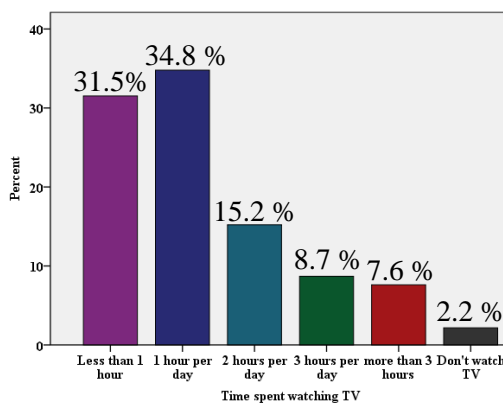


Fig. 11: Watching TV pattern variations for Special School children.

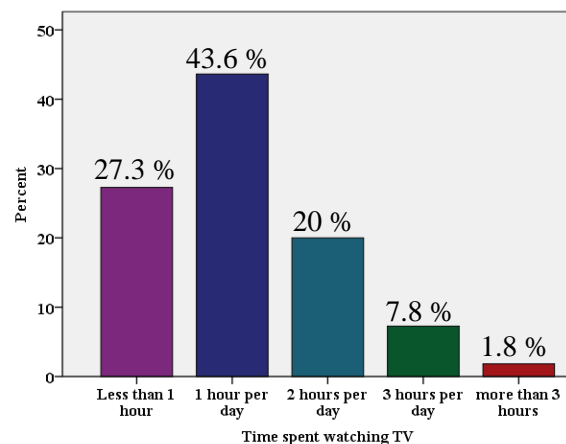


Fig. 12: Watching TV pattern variations for Normal School children.

The given bar graph illustrates about the children spending their time in the Special and Normal school. Five colors indicate about watching television activity. Children were spending their time studying and watching (Television) TV at home. In Special School, the largest number (34.8%) of participants spend their time in the watching TV at home around one hours whereas (8.7%) and (7.6%) number of children has spent their time around 3 hours and more than 3 hours. In Normal School, the highest number of children was (43.6%) and least number of participants (1.8%). In Special School, 31.5% number of respondents watch TV less than 1 hour at their home. The second least number of participant's watch TV less than 1 hour. In Normal School, the maximum number of respondents (43.6%) utilize their time by watching TV. In both Normal and Special school going children watch TV 7.6% and 7.8% respectively. In Special School, 31.5%. The second highest number of student's watch TV less than one hour whereas in Normal School quite less number of around 27.3%.

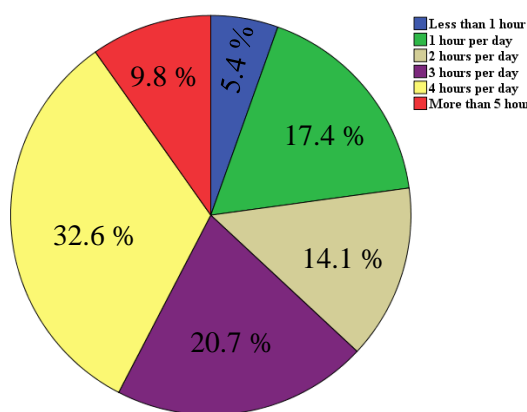


Fig. 13: Studying at home pattern variations for Special School children

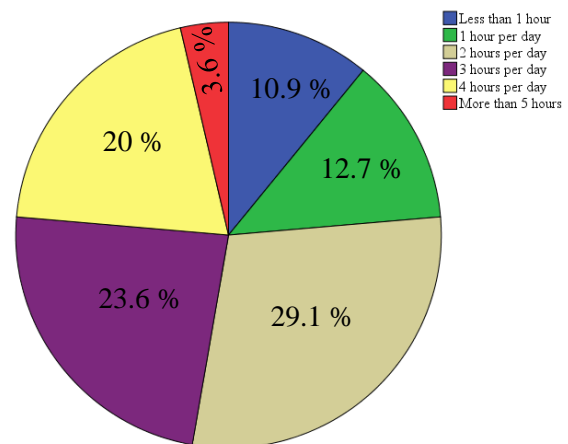


Fig. 14: Studying at home pattern variations for Normal School children.

The given pie graph illustrates about the children spending their time studying at home. In Special School, 32.6% number of children spends at least 4 hours per day on the study. The second highest number of participants spends 3 hours per day studying at home. The lowest number of students spends 4 hours per day and more than 5 hours per day studying at home. In Normal School, the majority of students studies up to 2 hours per day.



Fig. 15: No. of family members pattern variations for Special School children.

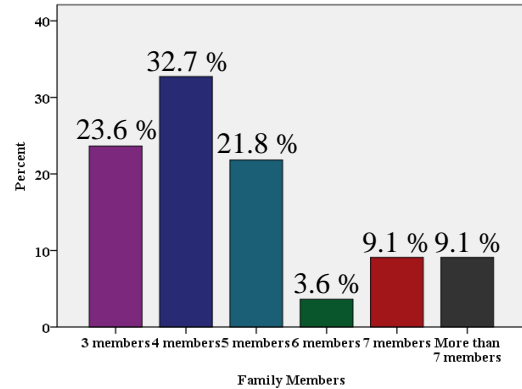


Fig. 16: No. of family members pattern variations for Normal School children.

In given bar graph represents that different family members in Special and Normal schools. The family members are from three to more than 7 members. In Special School, the maximum number of children has (14%) family members whereas 7 member's family has the least (3.3%) in their family. It indicates that more family member can't provide help to their children for homework at home. In Special Schools, four family members have highest percent from rest of groups. The two groups have similar percentage of family members. In Special School children, the maximum number of percentage are in 4 family members. The least guardian group have 3.6% whereas the 7 and more than 7 family members group has similar percentage (9.1%). The second highest family members group has 23.6% members. 5 family members group has slightly lower percentage than 3 and 4 member groups.

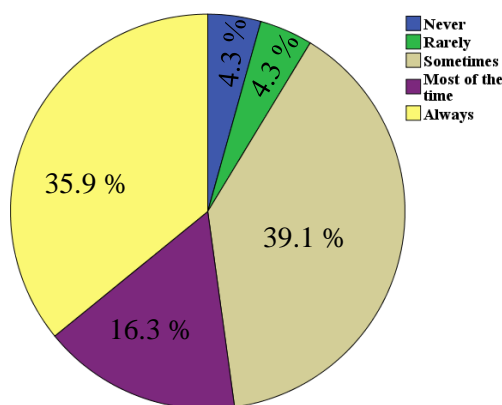


Fig. 17: Parents help at home pattern variations for Special School children

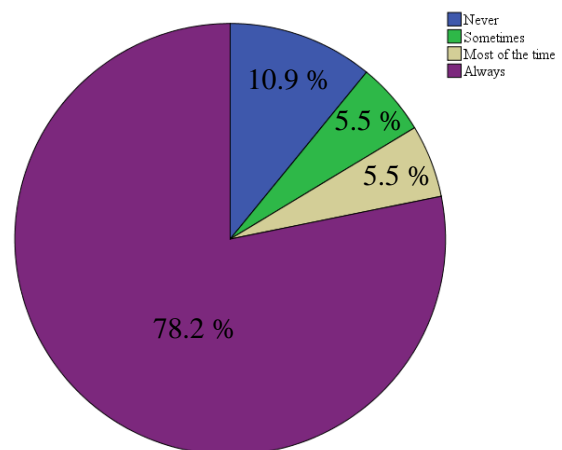


Fig. 18: Parents help at home pattern variations for Normal School children.

In the above given pie represents that parents help at home in Special and Normal Schools. In both the schools has different options about their parents. Option are allocated in different colors. In Special School, 39.1% parents helped their children ‘sometimes’ whereas 39.5% are more satisfied with their parents. In ‘rarely’ and ‘never’ cases, Special School children receives their parents help at similar percentage 4.3 %. Only 16.3% parents help their children most of the time because of their daily works. In Normal School, 78.2% children get their guardian help for their school and personal work. Only 10% children get their guardian help while doing some work. In ‘sometimes’ and ‘most of the time’ cases, parents give only 5.5% help to their child. As we compare in both school going children’s, Normal School children get their parent support than Special School children.

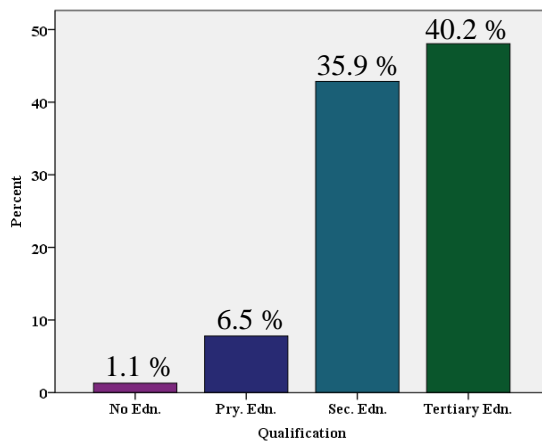


Fig. 19: Father’s Qualification pattern variations for Special School children.  
Missing 15 (16.3pc)

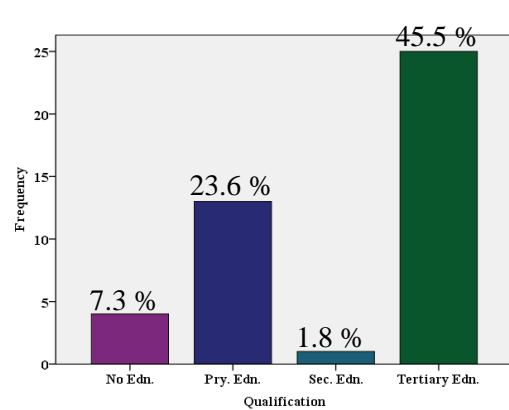


Fig. 20: Father’s Qualification pattern variations for Normal School children.  
Missing 12 (21.8pc)

In the above bar graph illustrate that the father qualification in different schools. In Special School, majority of fathers have tertiary education (40.2%). 1.1% fathers don’t have any education in special school. 35.9% children are whose father has completed secondary education. The percentage of secondary school going children has slightly lower than tertiary education. Almost 15 of students don’t know their father qualification. In Normal School children, most of the children replied their father qualification falls under tertiary education. The most of the children replied their father qualification is around 23.6% only 7.3% children those father don’t have any education. 21.8% children do not have any information about their father’s qualification.

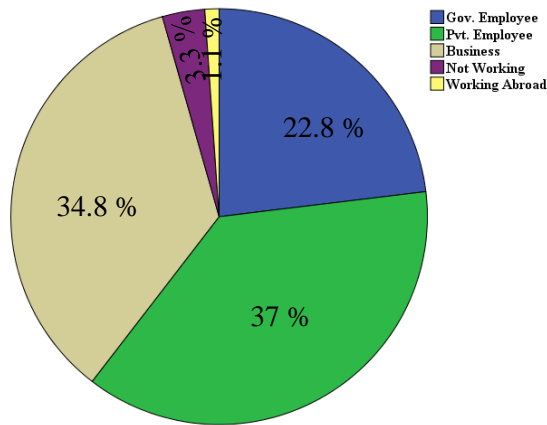


Fig. 21: Father's Occupation pattern variations for Special School children.  
Missing 1 (1.1pc)

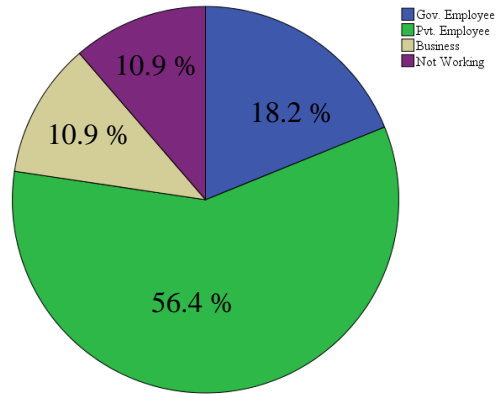


Fig. 22: Father's Occupation pattern variations for Normal School children.  
Missing 2 (3.6pc)

In above pie charts illustrate the father's occupation comparison between Special and Normal School. In Special School, 37% children fathers have private employee whereas 34.8% does business. Only 1.1% guardians are working in abroad and 3.3% guardian doesn't have job. Only one child does not have any information about their father occupation. In Normal Schools, majority of student's father are from private organization. In Normal School, Business and not working fathers have similar percentage. Only 18.2% fathers have government job. Only two numbers of children (3.6%) do not have any information about their father occupation. As we compare in both the schools' majority of children fathers are from private employee.

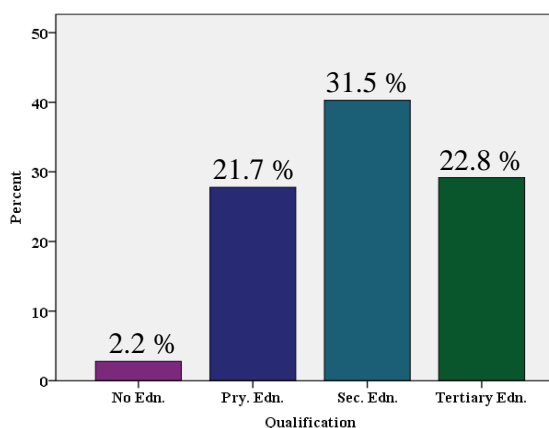


Fig. 23: Mother's Qualification pattern variations for Special School children.  
Missing 20 (21.7pc)

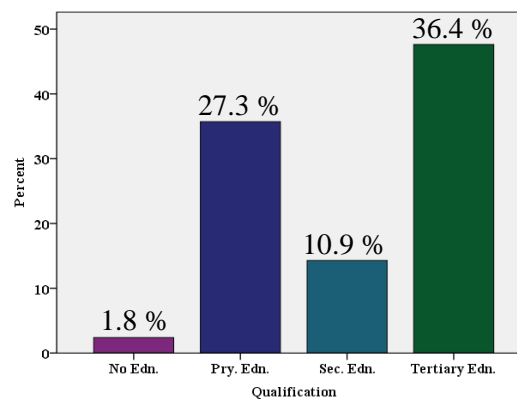


Fig. 24: Mother's Qualification pattern variations for Normal School children.  
Missing 13 (23.6pc)

In above bar graph illustrates the mother’s qualification in different schools. In Special School, the majority of mothers have secondary level education (31.5%). 2.2% mothers don’t have any education in Special School. 31.5% children are whose mother has completed secondary education. The percentage of secondary school going children has higher than tertiary education. Almost 20 numbers of students don’t know their mother’s qualification. In Normal School children, most of the children replied that their mother’s qualification comes under tertiary education. The second highest number of children replied that their mother’s qualification is around 27.3%. Only 1.8% children say that those mothers don’t have any education. 13% children do not have any information about their mother’s qualification.

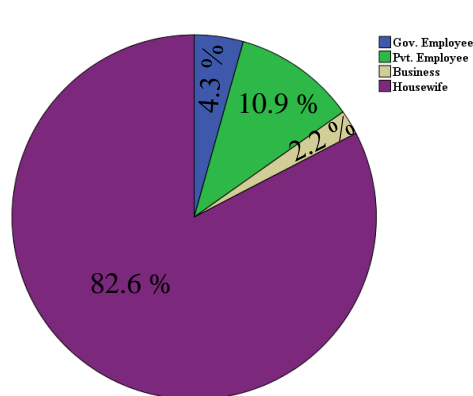


Fig. 25: Mother’s Occupation pattern variations for Special School children.

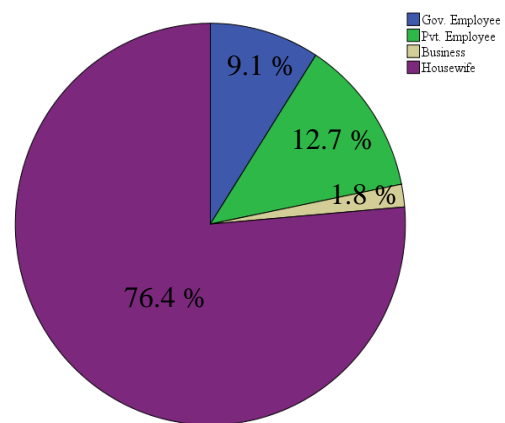


Fig. 26: Mother’s Occupation pattern variations for Normal School children.

In above pie charts, it illustrates the mother’s occupation comparison between Special and Normal school. In Special School, 82.6% children mothers are housewife whereas 10.9% mothers are doing business. Only 2.2% mothers are working business and 4.3% guardian have engage in government sector. In Normal School, majority of student’s mothers are housewives. Business mothers with 1.8% and government employee mothers are 9.1%. The majority of mother’s occupation in Special and Normal School are housewife. Private employee mothers have higher percent than Special School children mothers. Business mothers have higher percent than Normal School than Special School children mothers. In Normal Special 9.1% mothers are working in government sector whereas in Special School mothers have lower percentage (4.1%).



#### 4.3. Impact of socio-demographic factors on learning disability.

Table 1: Distribution of total score of respondents according to gender.

Gender	Special School		Normal School	
	Mean±sd	Mann-Whitney U test (p value)	mean±sd	Mann-Whitney U test (p value)
Male	22.55±19.51	0.365	19.48±7.26	0.267
Female	16.66±9.18		17.77±9.25	

According to the Mann-Whitney U test result. There is no significance between male and female on dyslexia score.

Table 2: Relationship between age and dyslexia score.

Variable	School	Correlation Value	p value
Age ~ Dyslexia Score	Special School	.304	0.003
	Normal School	-0.395	0.003

There is significance low positive correlation between age and dyslexia in Special School and significance low negative correlation between age and dyslexia in Normal School.

Table 3: Variation of dyslexia scores on student's behaviors among Special School children.

<b>Variable</b>		<b>Mean <math>\pm</math>SD</b>	<b>ANOVA Test P value</b>
Class	Class I	17 $\pm$ 14.82	0.016*
	Class II	15.21 $\pm$ 9.11	
	Class III	21.84 $\pm$ 15.60	
	Class IV	28.83 $\pm$ 22.85	
	Class V	14.56 $\pm$ 3.59	
No. of hours studied	> 1 hour	35.80 $\pm$ 31.13	0.078
	1 Hour	21.31 $\pm$ 18.42	
	2 Hours	14.92 $\pm$ 5.89	
	3 Hours	21.58 $\pm$ 17.99	
	4 Hours	15.63 $\pm$ 7.65	
	> 5 hours	20.78 $\pm$ 13.37	
No. of hours TV watched	< 1 hour	18.48 $\pm$ 13.98	0.010*
	1 hr/day	20.25 $\pm$ 13.91	
	2 hrs/day	11.71 $\pm$ 6.56	
	3 hrs/day	14.88 $\pm$ 2.74	
	> 3 hours	36.57 $\pm$ 29.13	
	No TV	28.50 $\pm$ 8.19	

According to the table 3, it shows that there is a significant difference in dyslexia score based on 'class' and the 'No. of hours' that they have watched TV. It also shows that there is a significant difference between Class II and Class IV as well as Class V in the dyslexia mean values. It is also found out that there is a significant between the No. of hours TV watched and also 'TV watched 2 hours' with 'TV watched more than 3 hours daily in a day.

Table 4: Variation of dyslexia scores on student's behaviors among Normal School children.

<b>Variable</b>		<b>Mean ±SD</b>	<b>ANOVA Test P value</b>
Class	Class I	24.44±8.67	0.002*
	Class II	17.74±6.92	
	Class III	13.82±7.30	
	Class IV	13.80±6.05	
No. of hours studied	> 1 hour	24.67±8.04	0.224
	1 Hour	22.14±14.89	
	2 Hours	17.50±7.04	
	3 Hours	15.31±7.43	
	4 Hours	18.82±4.91	
	> 5 hours	15.50±0.70	
No. of hours TV watched	< 1 hour	15.93±7.04	0.557
	1 hr/day	19.17±8.56	
	2 hrs/day	19.73±9.50	
	3 hrs/day	19.00±9.79	
	> 3 hours	28.00±0	

According to the table 4 above, there is a significance difference in dyslexia score based on the classes. It has been also found that that there is a significant difference between Class I with between all the class (i.e. Class II, Class III and Class IV) in the dyslexia mean values.

Table 5: Variation of dyslexia scores on family's information among Special School children.

<b>Variable</b>		<b>Mean <math>\pm</math>SD</b>	<b>ANOVA Test P value</b>
No. of Family members	3 members	17.00 $\pm$ 7.34	0.716
	4 members	18.30 $\pm$ 14.02	
	5 members	21.60 $\pm$ 17.99	
	6 members	15.60 $\pm$ 5.94	
	7 members	23.80 $\pm$ 30.34	
	>7 members	29.00 $\pm$ 11.35	
Parents Helps at Home	Never	38.75 $\pm$ 33.76	0.026*
	Rarely	15.00 $\pm$ 7.43	
	Sometimes	15.19 $\pm$ 13.15	
	Most of the time	19.73 $\pm$ 12.61	
	Always	21.88 $\pm$ 13.97	
Father's Qualification	No Edn.	18 $\pm$ 0	0.818
	Pry. Edn.	26.17 $\pm$ 25.76	
	Sec. Edn.	19.97 $\pm$ 14.90	
	Tertiary Edn.	19.41 $\pm$ 15.53	
	Don't know		
Mother's Qualification	No Edn.	19 $\pm$ 1.41	0.968
	Pry. Edn.	18.40 $\pm$ 11.31	
	Sec. Edn.	18.72 $\pm$ 14.98	
	Tertiary Edn.	17.05 $\pm$ 7.92	
	Don't know		
Father's Occupation	Gov. Employee	20.10 $\pm$ 17.42	0.838
	Pvt. Employee	20.65 $\pm$ 16.55	
	Business	18.03 $\pm$ 12.73	
	Not Working	20.67 $\pm$ 2.08	
	Working Abroad	5 $\pm$ 0	
	Don't know		
Mother's Occupation	Gov. Employee	19.75 $\pm$ 4.57	0.181
	Pvt. Employee	19.30 $\pm$ 7.45	
	Business	42.50 $\pm$ 51.61	
	Housewife	18.72 $\pm$ 14.70	

Likewise, in the table 5 given above, there is also significant difference between the dyslexia score and parents help at home. It has also found that there is a significant difference between parents 'never' teach at home and parents 'sometimes' teaches at home with the dyslexia mean values.

Table 6: Variation of dyslexia scores on family's information among Normal School children.

<b>Variable</b>		<b>Mean ±SD</b>	<b>ANOVA Test P value</b>
No. of Family members	3 members	20.38±8.16	0.620
	4 members	15.94±6.14	
	5 members	19.25±11.71	
	6 members	14.50±3.53	
	7 members	21.00±5.65	
	>7 members	20.60±10.55	
Parents Helps at Home	Never	15.17±5.41	0.091
	Rarely	0	
	Sometimes	21.33±20.55	
	Most of the time	8.33±4.72	
	Always	19.53±7.41	
Father's Qualification	No Edn.	19±3.74	0.022*
	Pry. Edn.	20.56±7.06	
	Sec. Edn.	22±0	
	Tertiary Edn.	13.72±6.42	
	Don't know		
Mother's Qualification	No Edn.	19±	0.011*
	Pry. Edn.	19.87±7.02	
	Sec. Edn.	17.50±4.23	
	Tertiary Edn.	12.60±5.85	
	Don't know		
Father's Occupation	Gov. Employee	15.40±7.24	0.546
	Pvt. Employee	18.77±8.32	
	Business	18.33±11.05	
	Not Working	21.67±9.81	
	Working Abroad		
	Don't know		
Mother's Occupation	Gov. Employee	14±8.88	0.390
	Pvt. Employee	20.71±10.37	
	Business	10±0	
	Housewife	18.93±7.98	

It also tells us that the table 6 shown above, says that there is also a significant difference between the dyslexia score and parent's qualifications. It has also found that there is a significant difference between parents 'Primary Education Level' and 'Tertiary Education Level with the dyslexia mean values.

Table 7: Variation of dyslexia scores among Special School and Normal School children.

Variable	Dyslexia Score	
	Mean±sd	Mann-Whitney U test p value
Special School	19.35±15.02	0.252
Normal School	18.55±8.37	

According to the Mann-Whitney U test result. There is no significance between Special School and Normal School on dyslexia score.

## **Chapter V**

### **DISCUSSION**

The study is intended to find out the status of learning disability or difficulties among the school going children of the primary schools. The findings show that the prevalence of school going children have more dyslexia as compare to Normal School children than Special School Children. The majority are female were affected from dyslexia in both the schools. The total numbers of participants were 147. The majority students were from Special School (92) and remaining children are from Normal School (55). In Special School, mostly (39%) parents help their child sometimes and only 35.9% guardian helps in every activity at home. In Normal School around 78% parents help their child in daily activities. In Special School, those children who have moderate number of family members received more benefits as compare to Normal School family members. Mostly, the parents were from business occupation; they don't have time for their children whereas government and private employee father's spend some time with their children. Majority of school children parents studied at tertiary level. One study was conducted in Malaysia on a study of dyslexia among primary school students in Sarawak. The result of the study revealed that even though 58-62% of dyslexia students display the 32 dyslexia symptoms. The study results that dyslexia students are really having difficulty in reading. The association between dyslexia and demographic factors on the other hand, was small with only a  $r=0.0-0.12$  correlation. It indicates that socio-demographic that socio-economic factor has little impact on the dyslexia issue among students. In terms of correction, students with dyslexia had an  $r=0.4$ ,  $P<0.05$ , corrected significance with educational and socioeconomic variables, family size, class, and gender. It certain cause had an effect on dyslexia. It was also discovered that the demographic factor had only made a small contribution to the issue of dyslexia as  $R^2=0.135$  percent of its contribution to the problem.

Most of the studies published deals with the teacher's knowledge of concepts of language and their understanding of orthography. There is no much scientific literature on the teacher's ability to identify dyslexia. Four hundred and eighty student teachers were surveyed regarding their attitude towards dyslexia. The student teachers demonstrated strongly positive attitude towards dyslexia and a majority expressed confidence in their ability to guide students with dyslexia. In the study, however 92.3% of the teachers admitted to poor knowledge and were not confident of guiding children

with dyslexia. Teaching experience seems to have a positive correlation with knowledge and this is borne by similar studies elsewhere.

Diagnosis of dyslexia could be distressing to the parents. In a study, one hundred mothers of Children with specific learning disorders were interviewed using the Hamilton anxiety rating scale and anxiety was observed in 76% of the mothers. Therefore, counselling parents would be an awkward situation for school teachers. In the present study 52 teachers had counselled parents about suspected dyslexia in their children. Training teachers about specific learning disorders and identifying them in children could have significant long term dividends. In a study a group of kindergarten and first grade teachers were trained on concepts of phonological and orthographic awareness during a two-weeks period. Subsequently these teachers and a control group of teachers and their students were followed up and the researchers concluded that teacher's knowledge and perception can be changed and they became more effective in classrooms and consequently student learning improved.

Studies have also demonstrated that it is possible to teach phoneme awareness to pre literate children too. The present study also reveals that the awareness and knowledge among elementary school teachers are poor. Teaching experience and prior training had a significant positive bearing on knowledge. Majority of teachers advocated training programs on dyslexia had expressed their willingness to attend such programs. Training sessions for teachers would have major beneficial dividends to the community. Third finding is participants are aware of role of teachers and parents in improving skills like reading. It also says that some students could pinpoint reasons of their difficulties and most of them reported that they feel interest in reading English texts. The last question was set to know the strategies for language learners of Bangladesh to cope up with their reading difficulties. Students reported what strategies they use most. They mostly use scanning, rereading, summarizing, using prior knowledge and discuss things with others.



## **Chapter VI CONCLUSION**

### **6.1 Conclusion**

It is found out that the children learning can effect mentally and psychology to them and affect the later part of their life to develop, motivate and to improve their life and help themselves. Facilitating them by reading to improving both speed and comprehension in a groups of students facing difficulties with the poor reading and writing. Such kind of supports helps and increases the students reading and abilities as well as in the writing by demonstrating with the help of visual help and helping them to read and write with the visual presentations of text with the lines or visuals and task like the adding spaces between letters and lines to control crowing of the letters and missing up. Facilitating to read for them those who faces and struggles to read. The results and findings here supports that the accomplishes concluding that the previous researches in this field of study. Where those studies are reliable and understandable and gains the result effectively from the lines and gapping. The future investigations should be focus on how the active attention with the eye and body movement while reading and writing as it helps them better in understanding and formation of the text. Since the dyslexia been founded that was described as a method for reading and writing have experienced and underwent very little change. As the development and evolving of new digital and technologies the reading and writing methods and are rapidly developing that improvement are possible (Schneps et al., 2013).

Such kind of learning disabilities is very important to recognize at early stage. As they might face difficulties in learning and understanding, as their behavioral signs changes and may faces trouble to learn things further. It is extremely important to take very seriously when they face problems in reading and writing at early ages as they start their learning starts and examined and explore seriously. We must not neglect as it is a common issue in the lower classes. It is said that the early identification and intervention can prevent the most serious (learning) difficulties later on or at least we can reduce the severity of the problem. Going to school phobia and afraid from the teacher phobia and somatic complaints that they say during the school days are also a sign of a possible learning disability (Ali & Sarwar, 2015).

## **6.2 Study Limitation**

The purpose of the study was to find out the status of learning disability or difficulties among the school going children. As the result shows that there is no much significant between the Normal and Special School. The findings of this result will be useful for the future researchers and especially to the teachers in the lower grade classes to help them. As there are limitations of the study due to the less knowledge of education system in Bangladesh and moreover as a student studying faces lots of issues in deliver the proper instructions in the class in English medium. It is also having to be do with the proper scoring score test to find out the right number of students facing with learning difficulties due to very expensive test and questionnaires on this studies.

### **6.3 Recommendations**

Special Educator professionals and physicians plays an important role in identification of those children who have dyslexia and its risk. Moreover, it is important to conduct and trials to recognize the possible signs of dyslexia. It is also important to include some standardized tools, questionnaires and screening test in order to identify the children with according to their severity accordance of reading, spelling and mathematics. The screening test should be done for all the children in order to find them their intelligence and there understanding of the test and weakness in particular. Some researchers have also found out that the dyslexia are also found in a huge number in the homeless and street children. It is important that we recognize these difficulties early and make an attempt to remove them or reduce their severity. Particularly physicians and education professionals have an important role in recognizing a child who is at risk for dyslexia and helping the parents obtain the proper assessment. In particularly, the schools and government to take action on behalf of them develop them mentally and physically strong.

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## **Chapter VIII: Appendix 1: Consent Form**

### **Consent Form**

#### ***Introduction***

I am Jigme Wangchuk pursuing my Master's in Rehabilitation Science in BHPI. I am conducting this research in order to gain the on dyslexia. I would greatly appreciate for you permission as a parent/caregiver/teacher of the student.

The purpose of this form is to provide you as the parent/caregiver/teacher of a research study participant. It will not hamper the student's personal life or the academic life in participating in the study. This is to get your permission whether or not to let your child participate in this research study. This research study will take place during regular classroom activities; however your child's participation in this study is voluntary. Your child may decline to participate or to withdraw from participation at any time. Withdrawal or refusing to participate will not affect the relationship with the .You can agree to allow your child to be in the study now and change your mind later without any penalty. If you decide to let your child be involved in this study, this form will be used to record your permission.

Your child's privacy and the confidentiality of his/her data will be completely protected. No information will be included in my thesis that could personally identify you. Additionally, all information that could identify your clients will be removed and destroyed. Thank you again for your help with this project.

#### ***Purpose of the Study***

If you agree, your child will be asked to participate in a research study about the dyslexia, which many of the students struggle in the schools to understand in the learning process. The purpose of this study is it will give how many students have trouble in reading and leaning in the class. For instance, confusion of letter 'b' and 'd' in English alphabet or the word 'was' and 'saw'. It is a simple word or letter but have different meanings. It seems like a mirror image word. Just a flipped word.

#### ***What is my child going to be asked to do?***

If you allow your child to participate in this study, they will be given a sheet with and asked to fill up the form, write and circle or draw the lines etc. It will roughly take around 30 minutes to complete the task.

#### ***What are the risks involved in this study?***

There are no risks participating in this study.

#### ***What are the possible benefits of this study?***

The students in the especially in the inclusive school for their learning in the academic. The study will benefit both the teachers or he educators, students other who want s understand how to teach the slow learners in the classroom. It will improve the students learning strategy and how it is effecting to them. **Student does not receive any monetary benefits** but your child will receive direct benefit from participating in this study as well as the society.

***Whom to contact with questions about the study?***

Prior, if you have any question during or after the study, please contact Jigme Wangchuk at [youngjigme@gmail.com](mailto:youngjigme@gmail.com) for any questions or if you feel or if you are harmed from this study.

***Signature***

You are making a decision about allowing your child to participate in this study. Your signature below indicates that you have read the information provided above and have decided to allow them to participate in the study. If you later decide that you wish to withdraw your permission for your child to participate in the study you may discontinue his or her participation at any time.

\_\_\_\_\_  
Printed Name of Child

\_\_\_\_\_  
Signature of Parent(s) or Legal Guardian

Date \_\_\_\_\_

\_\_\_\_\_  
Signature of Investigator

Date \_\_\_\_\_

## Appendix 2: Socio-Demographic Data

*Student's Information. Please fill up all the blank spaces. Thank you!!!*

1. Name  (will be kept confidential)
2. Name of the School
3. Gender:  
Male   
Female
4. Which class are you in?
  1. Class 1
  2. Class 2
  3. Class 3
  4. Class 4
  5. Class 5
  6. Class 6
5. How old are you?
  1. 7 years old
  2. 8 years old
  3. 9 years old
  4. 10 years old
  5. 11 years old
  6. 12 years old
  7. 13 years old
  8. 14 years old
  9. 15 years old
  10. 16 years old
6. Are you a:
  1. Day scholar
  2. Hosteller
7. Where do you live?
  1. Urban
  2. Rural
8. How many hours do you study at home or hostel every day?
  1. Less than 1 hour
  2. 1 hour per day
  3. 2 hours per day
  4. 3 hours per day
  5. 4 hours per day
  6. More than 5 hours

9. **When do you usually go to sleep?**

- 1. 8.00 pm - 8.30 pm
- 2. 8.30 pm - 9.00 pm
- 3. 9.00 pm - 9.30 pm
- 4. 9.30 pm - 10.00 pm
- 5. 10.00 pm - 10.30 pm
- 6. 10.30 pm - 11.00 pm
- 7. 11.00 pm - 11.30 pm

10. **How many hours do you watch TV in a day?**

- 1. Less than 1 hour
- 2. 1 hour per day
- 3. 2 hours per day
- 4. 3 hours per day
- 5. More than 3 hours
- 6. Don't watch TV

11. **What is your parent's marital status?**

- 1. Married
- 2. Divorced
- 3. Expired
- 4. Single

12. **How many members are there in your family?**

- 1. 3 members
- 2. 4 members
- 3. 5 members
- 4. 6 members
- 5. 7 members
- 6. More than 7 members

13. **Does your parent help you to do your homework at home or teach at home?**

- 1. Never
- 2. Rarely
- 3. Sometimes
- 4. Most of the time
- 5. Always

14. **What is your father's Qualification?**

- 1. No Education
- 2. Primary Education
- 3. Secondary Education
- 4. Tertiary Education

**15. What s your father's Job/Occupation?**

- 1. Government Employee
- 2. Private Employee
- 3. Business
- 4. Not working
- 5. Working Abroad

**16. What is your mother's Qualification?**

- 1. No Education
- 2. Primary Education
- 3. Secondary Education
- 4. Tertiary Education

**17. What is your mother's Job/Occupation?**

- 1. Government Employee
- 2. Private Employee
- 3. Business
- 4. Housewife

## Appendix 3: Dyslexia Screening Test



### **Dyslexia Screening Test**

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[www.harpinstitute.com](http://www.harpinstitute.com)

**WARNING: This is a screening tool, not a diagnostic test. The dyslexia Screening Test will give you indications of dyslexia. If your student scores within the ranges that indicate dyslexia, it is advised that you seek professional help for the student.**

#### **Independent Activities:**

You may need to read the instructions to the student.

1. Print the alphabet below in lower case letters:

<hr/> <hr/>
-------------

©2014 Harp Learning Institute [www.learning-aids.com](http://www.learning-aids.com)

2. Circle all of the b's:

b	d	b	q	d	b	p	d	b	b	q	q	b
p	d	q	b	d	d	b	b	d	p	q	b	d
q	b	d	b	p	p	d	b	p	b	d	p	b

3. Circle each reversed letter:

p	h	x	o	t	c
w	m	t	k	a	q
r	n	g	w	e	q
d	r	h	s	z	f

4. Look at the first figure in the column. Circle the matching figure to the right of the line.

b	d	b	q	p
d	q	p	d	b

5. Look at the word on the left and circle the word on the right that matches.

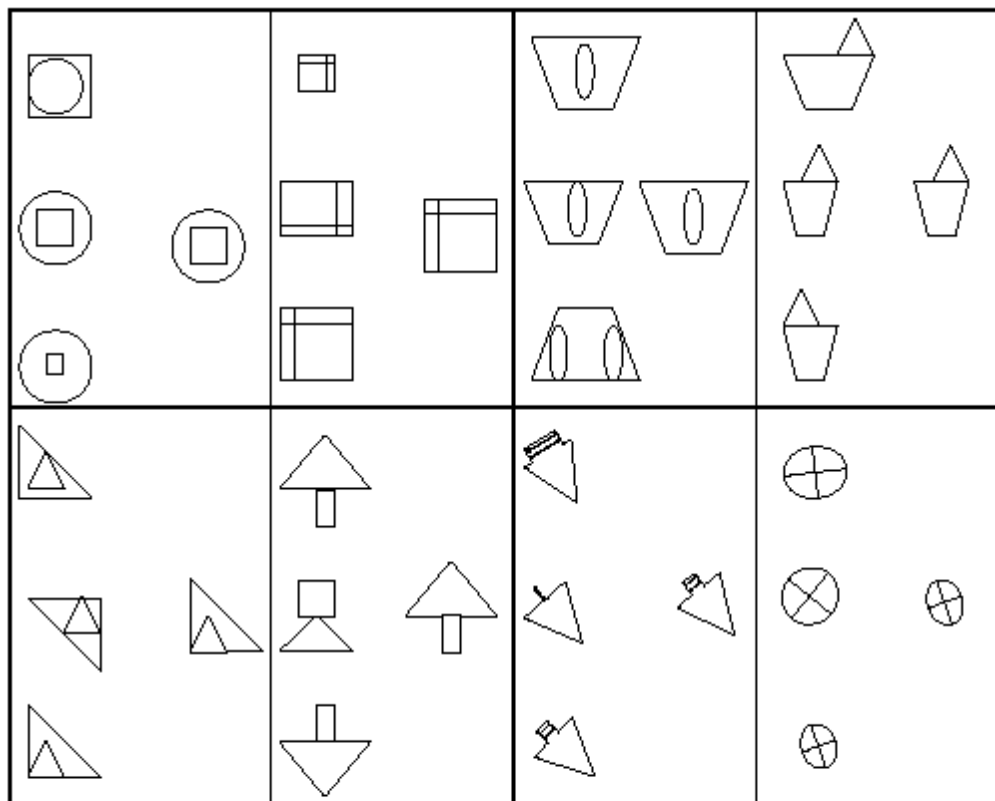
	the		them
the	ent	then	next
	ten		then



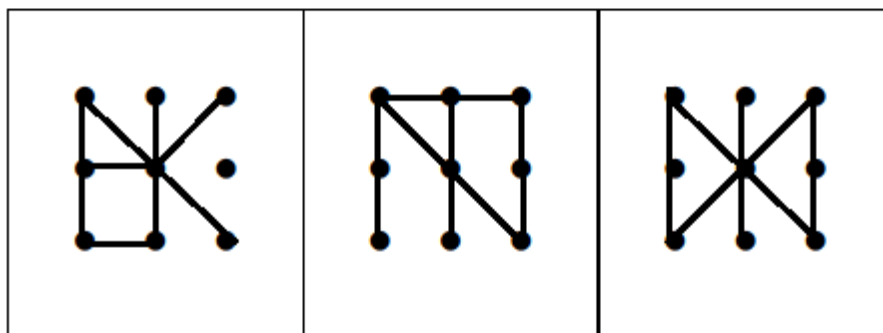
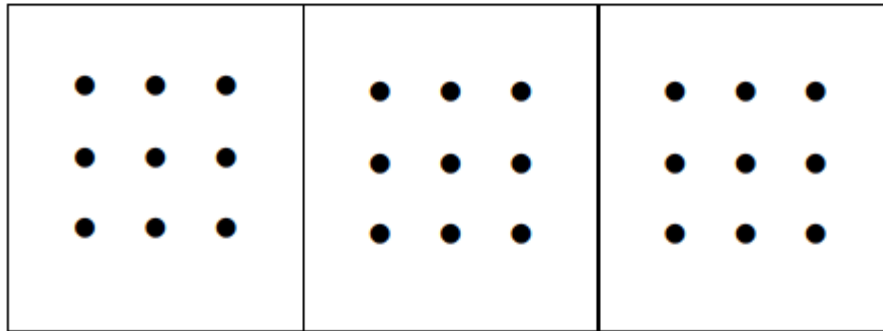
6. Circle each was.

was	raw	saw	way	was	saw
saw	was	way	saw	win	war
was	why	saw	was	saw	was

7. Look at the figure on the right and circle the one on the left that matches.



8. Have the student copy the figures from the bottom to the dots on top.



9. Look at each word and figure out what it is. Write the word on the line.

quack

\_\_\_\_\_

tribe

\_\_\_\_\_

quack

\_\_\_\_\_

10. Look at the letters at the left. Cover them up and copy them from memory on the line.

b p d p

\_\_\_\_\_

q q b g d

\_\_\_\_\_

d g b d p q

\_\_\_\_\_

11. Circle each reversed letter within the word

h e r	l i t	d o g	l a g	n o t
n o w	h i m	m a b	d o w	m a l l
o w l	n u t	q e n	r e n	s a t

12. Circle each reversed word.

own	got	bat	too	qiz
nst	can	tip	pan	bsd

## Answer Key:

1. Print the alphabet below in lower case letters:

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y	z						

- the alphabet should be in lower case letters and in the correct order.
- it should take no longer than three minutes for the student to complete the alphabet
- there should be no reversed or improperly formed letter
- count each letter as a point

Total wrong: \_\_\_\_\_

2. Circle all of the b's:

<input checked="" type="checkbox"/> b	d	<input checked="" type="checkbox"/> b	q	d	<input checked="" type="checkbox"/> b	p	d	<input checked="" type="checkbox"/> b	<input checked="" type="checkbox"/> b	q	q	<input checked="" type="checkbox"/> b
p	d	q	<input checked="" type="checkbox"/> b	d	d	<input checked="" type="checkbox"/> b	<input checked="" type="checkbox"/> b	d	p	q	<input checked="" type="checkbox"/> b	d
q	<input checked="" type="checkbox"/> b	d	<input checked="" type="checkbox"/> b	p	p	d	<input checked="" type="checkbox"/> b	p	<input checked="" type="checkbox"/> b	d	p	<input checked="" type="checkbox"/> b

- count each letter as a point

Total wrong: \_\_\_\_\_

3. Circle each reversed letter:

p	h	X	O	t	3
w	m	t	k	2	q
r	n	g	w	e	p
d	1	h	s	Σ	f

-if the student circles a correct letter, mark it wrong

Total wrong: \_\_\_\_\_

4. Look at the first figure in the column. Circle the matching figure to the right of the line.

b	a	b	q	p
d	q	p	d	b

Total wrong: \_\_\_\_\_

5. Look at the word on the left and circle the word on the right that matches.

the	the	then	them
	ent		next
	ten		then

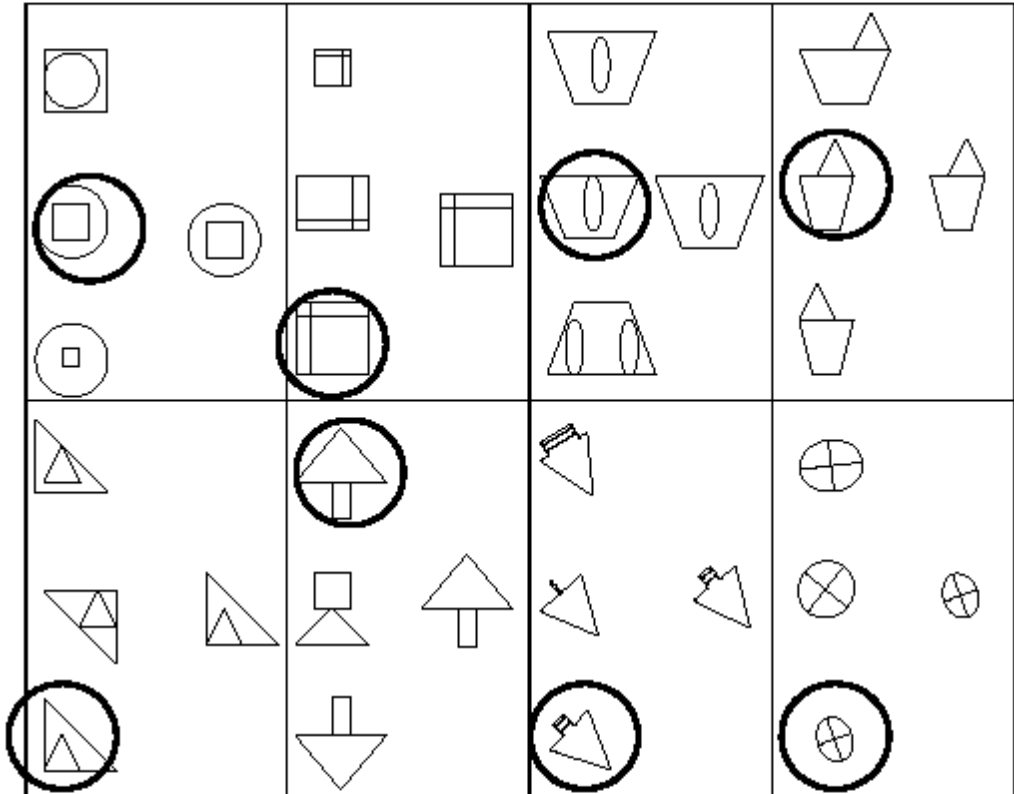
Total wrong: \_\_\_\_\_

6. Circle each was.

was	raw	saw	way	was	saw
saw	was	way	saw	win	war
was	why	saw	was	saw	was

Total wrong: \_\_\_\_\_

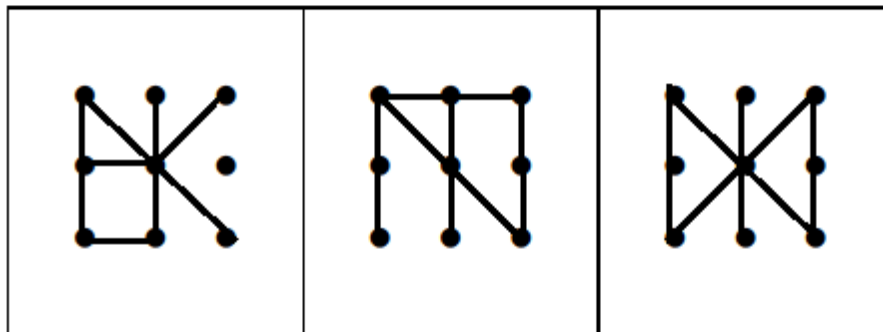
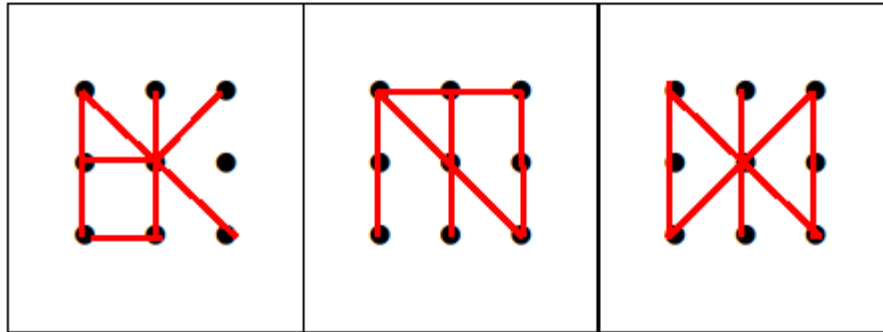
7. Look at the figure on the right and circle the one on the left that matches.



Total wrong: \_\_\_\_\_



8. Have the student copy the figures from the bottom to the top.



-count each square as one total answer

Total wrong: \_\_\_\_\_

9. Look at each word and figure out what it is. Write the word on the line.

quake

**quake**

tribe

**tribe**

pride

**pride**

Total wrong: \_\_\_\_\_

10. Look at the letters at the left. Cover them up and copy them from memory on the line.

b p d p

b p d p

q q b g d

q q b g d

d g b d p q d g b d p q

-count each line as one total answer

Total wrong: \_\_\_\_\_

11. Circle each reversed letter within the word

h e r	l i t	d o g	l a g	n o t
n o w	h i m	m a b	d o w	m a l l
o w l	n u t	q e n	r s n	s a t

-mark it wrong if the student circles a correct letter

Total wrong: \_\_\_\_\_

12. Circle each reversed word.

own	got	bat	too	qiz
nst	can	tip	pan	bsd

-mark it wrong if the student circles a correct word

Total wrong: \_\_\_\_\_

## **Dyslexia Screening Test Results**

Total up how many the student has missed:

\_\_\_\_\_

©2014 by Lisa Harp, certified teacher. Any dyslexia screening test that resembles this one has been pirated and is illegal to use.

©2014 Harp Learning Institute [www.learning-aids.com](http://www.learning-aids.com)

## Appendix 4: Approval from the Research and Evaluation Unit



# বাংলাদেশ হেলথ প্রফেশন্স ইনস্টিটিউট (বিএইচপিআই) Bangladesh Health Professions Institute (BHPI) (The Academic Institute of CRP)

Ref.

REF: CRP-BHPI/IRB/12/2019/1348

Date:.....

21.09.2019

To,  
Jigme Wangchuk  
5<sup>th</sup> Batch (Part-II) M.Sc. in Rehabilitation Science (MRS)  
Session: 2018-19, Student ID:181170129  
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

**Subject:** Approval of the thesis proposal “Learning Disability among the School going Children: A Cross-Section Survey in the Community of Bangladesh” by ethical committee.

Dear Jigme Wangchuk,  
Congratulations.

The Institutional Review Board (IRB) of BHPI has reviewed and discussed your application to conduct the above mentioned dissertation, with yourself, as the Principal investigator. The following documents have been reviewed and approved:

Sr. No.	Name of the Documents
1	Dissertation Proposal
2	Questionnaire (English version)
3	Information sheet & consent form.

The study involves use of standardized questionnaire for dyslexia screening among 7 years to 16 years old school going children in the community of Bangladesh, where the students will be given independent task in the classroom, which may roughly take around 30 minutes to complete the task. Since there is no possibility of any harm to the participants, the member of ethics committee have approved the study to be conduct in the presented form at the meeting held at 10:00 am on February 18, 2019 at BHPI during 20<sup>th</sup> IRB Meeting.

The Institutional Ethics Committee expects to be informing about the progress of the study, any changes occurring in the course of the study, any revision in the protocol and patient information or informed consent and ask to be provided a copy of the final report. This Ethics Committee is working accordance to Nuremberg Code 1947, World Medical Association Declaration of Helsinki, 1964 - 2013 and other applicable regulation.

Best regards,

Muhammad Millat Hossain  
Assistant Professor, Dept. of Rehabilitation Science  
Member Secretary, Institutional Review Board (IRB)  
BHPI, CRP, Savar, Dhaka-1343, Bangladesh

সিআরপি-চাপাইন, সাভার, ঢাকা-১৩৪৩, বাংলাদেশ, ফোন : ৭৭৪৫৪৬৪-৫, ৭৭৪১৪০৪ ফ্যাক্স : ৭৭৪৫০৬৯

CRP-Chapain, Savar, Dhaka-1343, Tel : 7745464-5, 7741404, Fax : 7745069, E-mail : contact@crp-bangladesh.org, www.crp-bangladesh.org

## Appendix 5: Application for the Review and Ethical Approval

To,  
The Institutional Review Board (IRB)  
Bangladesh Health Professions Institute (BHPI)  
CRP-Savar, Dhaka-1343, Bangladesh.

Date: September 21, 2019

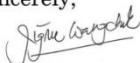
Subject: Application for Review and Ethical Approval.

Sir,

With due respect, I'm Jigme Wangchuk, student of M.Sc. in Rehabilitation Science program at Bangladesh Health Professions Institute (BHPI) - an academic institute of CRP under Faculty of Medicine, University of Dhaka (DU). I have to conduct a thesis entitled, 'Learning Disability among the School going Children: A Cross-Section Survey in the Community of Bangladesh' under the guidance of Md. Fazlul Karim Patwary, Professor, Institute of Information Technology, Jahangirnagar University, Bangladesh. The study involves taking socio-demographic details with simple independent activities in the classroom which it will take approximately 30 minutes. There is no likelihood of any harm to the participants or participating in this study may benefit the participants or other stakeholders. Written informed consent will be taken from all participants and collected data will be kept confidential.

Therefore, I look forward to having your kind approval for the thesis proposal and to start data collection. I also assure you that I will maintain all the requirements for the study.

Sincerely,



Jigme Wangchuk  
Part-II MRS 5th Batch  
Student of M.Sc. in Rehabilitation Science  
BHPI, CRP, Savar, Dhaka-1343



Recommendation from the thesis Supervisor  
Md. Fazlul Karim Patwary  
Professor, Institute of Information Technology, Jahangirnagar University, Bangladesh

## Appendix 6: Application for the Data Collection from Mission School

To,  
The Principal.  
Savar Mission School.  
(A Project of Savar Baptist Church).  
BHPI, Savar, Dhaka Bangladesh.

Date: November 14, 2019.

Subject: Application for the Data Collection from the Students for my Thesis.

Dear Sir,

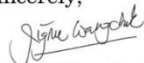
In the Partial fulfillment of the requirement for my master's degree in M.Sc. in Rehabilitation Science, Bangladesh Health Professions Institute, under the faculty of medicine, University of Dhaka, funded by SAARC Development Fund, under the supervision of Mr. Md. Fazlul Karim Patwary, Professor, Institute of Information Technology) IT, Jahangirnagar University, would like to ask for your permission to collect and conduct a research study entitled 'Learning Disability Among the School going Children: A Cross-Section Survey in a Community of Bangladesh.'


In this regard, I would like to ask for your permission to collect a research from the students and the materials for my thesis. The collecting of information may roughly take around 30 minutes to complete a task inside the classroom and I assure that the information collected will be kept and remain confidential and that should be used in academic purposes only.

I hope that you will give me support and advices to this finish this requirement of my degree. I hope for your positive response in this humble matter for your approval to conduct to conduct this study will be highly appreciated. For your question, please contact me at [youngjigme@gmail.com](mailto:youngjigme@gmail.com).

Thank you very much!!!

Sincerely,

  
Jigme Wangchuk  
Master's Student of BHPI

  
14.11.19

## Appendix 7: Application for the Data Collection from WMT School

To,  
The Principal.  
William and Marie Taylor School.  
(The Inclusive School of CRP).  
BHPI, Savar, Dhaka Bangladesh.

Date: October 1, 2019.

Subject: Application for the Data Collection from the Students for my Thesis.

Dear Sir,

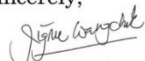
In the Partial fulfillment of the requirement for my master's degree in M.Sc. in Rehabilitation Science, Bangladesh Health Professions Institute, under the faculty of medicine, University of Dhaka, funded by SAARC Development Fund, under the supervision of Mr. Md. Fazlul Karim Patwary, Professor, Institute of Information Technology) IT, Jahangirnagar University, would like to ask for your permission to collect and conduct a research study entitled 'Learning Disability Among the School going Children: A Cross-Section Survey in a Community of Bangladesh.'

In this regard, I would like to ask for your permission to collect a research from the students and the materials for my thesis. The collecting of information may roughly take around 30 minutes to complete a task inside the classroom and I assure that the information collected will be kept and remain confidential and that should be used in academic purposes only.

I hope that you will give me support and advices to this finish this requirement of my degree. I hope for your positive response in this humble matter for your approval to conduct to conduct this study will be highly appreciated. For your question, please contact me at [youngjigme@gmail.com](mailto:youngjigme@gmail.com).

Thank you very much!!!

Sincerely,



Jigme Wangchuk  
Master's Student of BHPI

Permitted.  
M  
1-10-19