LEARNING DIFFICULTIES AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT

DISSERTATION SUBMITTED TO

ST. TERESA'S COLLEGE (AUTONOMOUS) ERNAKULAM

Affiliated to

MAHATMA GANDHI UNIVERSITY

In partial fulfilment of requirement for the

AWARD OF THE DEGREE OF MASTER OF SCIENCE IN

HOME SCIENCE (BRANCH A)

CHILD DEVELOPMENT

By

AMEESHA ROSE SHAJAN

Register No. AM23HCD003

DEPARTMENT OF HOMESCIENCE AND CENTRE FOR RESEARCH

APRIL 2025

ASSESSMENT OF LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT

Dissertation submitted to

ST. TERESA'S COLLEGE, (AUTONOMOUS) ERNAKULAM

Affiliated to

MAHATMA GANDHI UNIVERSITY

In partial fulfilment of requirement for the

AWARD OF THE DEGREE OF MASTER OF SCIENCE IN

HOME SCIENCE (BRANCH A)

CHILD DEVELOPMENT

By

AMEESHA ROSE SHAJAN

Register No. AM23HCD003

DEPARTMENT OF HOMESCIENCE AND CENTRE FOR RESEARCH

APRIL 2025

ASSESSMENT OF LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT

Dissertation submitted to

ST. TERESA'S COLLEGE, (AUTONOMOUS) ERNAKULAM

Affiliated to

MAHATMA GANDHI UNIVERSITY

In partial fulfilment of requirement for the

AWARD OF THE DEGREE OF MASTER OF SCIENCE IN

HOME SCIENCE (BRANCH A)

CHILD DEVELOPMENT

By

AMEESHA ROSE SHAJAN

Register No. AM23HCD003

'Certified as bonafide research work'

.....

Signature of the Examiner

29/4/25

Date

Dr. Nisha Vikraman
Assistant Professor & Research Guide
Signature of the Guide
Department of Home Science
St. Teresa's College (Autonomous)
Ernakulam

.....

Signature of the Head of

The Department

ST.TERESA'S COLLEGE (AUTONOMOUS)
ERNAKULAM

Certificate of Plagiarism Check for Dissertation

Author Name	AMEESHA ROSE SHAJAN
Course of Study	M.Sc. Home Science Branch A- Child Development
Name of Guide	Dr. Nisha Vikraman
Department	Home Science & Centre For Research
Acceptable Maximum Limit	20
Submitted By	library@teresas.ac.in
Paper Title	ASSESSMENT OF LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT
Similarity	2% AI 14%
Paper ID	3543091
Total Pages	109
Submission Date	2025-04-25 11:58:55

Signature of Student

Signature of Guide

Checked By
College Librarian

LIBRARY

Dr. Nisha Vikraman
Assistant Professor & Research Guide
Department of Home Science
St. Teresa's College (Autonomous)
Ernakulam-682 011

DECLARATION

I hereby declare that the thesis entitled '**Assessment of Learning Difficulty Among Middle School Children in Kumbalangi Panchayat**' is a Bonafide record work done by me during the course of the study, under the supervision and guidance of Dr. Nisha Vikraman, Assistant Professor, Department of Home Science and Centre for Research, St. Teresa's College, Ernakulam.

AMEESHA ROSE SHAJAN

Place: Ernakulam

Date: 29/4/2025

DEPARTMENT OF HOME SCIENCE

AND CENTRE FOR RESEARCH

ST. TERESA'S COLLEGE, (AUTONOMOUS)
ERNAKULAM

Dr. Nisha Vikraman
Assistant Professor
Department of Home Science & Centre for Research

CERTIFICATE

This is to certify that the thesis entitled **'ASSESSMENT OF LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT'** is an authentic record of the original research work carried out by **Ms. AMEESHA ROSE SHAJAN** with **Reg. No -AM23HCD003** under my supervision and guidance during the academic year 2023-25

Ernakulam
29/04/2025

Dr. Nisha Vikraman

Dr. Nisha Vikraman
Assistant Professor & Research Guide
Department of Home Science
St. Teresa's College (Autonomous)
Ernakulam-682 011

ACKNOWLEDGEMENT

I would like to begin by expressing my heartfelt gratitude to God Almighty for His constant guidance, strength, and wisdom that have supported me throughout every stage of this research journey.

I extend my sincere thanks to Prof. Dr. Alphonsa Vijaya Joseph, Principal of St. Teresa's College (Autonomous), Ernakulam, as well as to Manager Rev. Sr. Nilima and Directors Rev. Sr. Francis Ann and Rev. Sr. Tessa CSST, for their continuous encouragement and support.

I am deeply grateful to my research guide, Dr. Nisha Vikraman, Assistant Professor in the Department of Home Science, for her steadfast support, invaluable guidance, and thoughtful insights, which have been instrumental in the successful completion of this study. I also wish to thank the faculty members of the Home Science Department for their cooperation, encouragement, and academic guidance.

I would like to acknowledge the authorities of St. Teresa's College for providing the essential resources and a supportive environment that greatly facilitated my research work.

Finally, my heartfelt thanks go to my family and friends for their unwavering support, patience, and encouragement. Their faith in me has been a constant source of inspiration and motivation throughout this academic journey.

AMEESHA ROSE SHAJAN

CHAPTER 1: INTRODUCTION

Learning difficulties among middle school children in kumbalangi panchayat

Context of the study

"Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will spend its whole life thinking it is stupid." — Albert Einstein

This deep truth stated by Albert Einstein sums up the best thing one must understand in the field of education, especially when it comes to children suffering from learning disabilities. There are specific learning disorders (SLDs) which constitute cognitive impairments that can affect a child's ability to obtain, process and apply academic skills in spite of having average or above-average intelligence. These are neurologically-based challenges for things like reading (dyslexia), writing (dysgraphia), and mathematics (dyscalculia) (Kariyawasam et al., 2019). Children age 8–13 years (often referred to as middle childhood) are particularly susceptible because this is the period of life when foundational academic skills are being formed, key to later successes in education. Learning difficulties can lead to academic underachievement, low self-esteem, and social withdrawal if not properly identified and accommodated. Such a deep understanding of the complexity inherent in these challenges is key to building inclusive environments and enacting early interventions.

The last three decades have seen an alarming rise in the prevalence of learning disabilities in school-aged children in India which is now emerging as a major public health and educational issue. As per research work done on Indian schools, it has been found that around 10% to 12% of students show symptoms of specific learning disorders Wright-Strawderman & Watson, 1992). This amounts to over 30 million children nationwide who will be challenged in some manner with reading, writing, or arithmetic. A study conducted on prevalence of dyslexia by Lakshmi, Kumar, and Sharma (2022) found that prevalence of dyslexia alone

also stands about 8.3% and the majority of affected children study in regular schools without proper support. According to the 76th Round Report on Disability in India published by the National Sample Survey Office.

(NSSO, 2018), the disabilities of 5–14-year-old children included 7.8% children in the category of learning disability (Rao et al., 2017). This is especially true for those children with learning difficulties who receive no help at all; the high percentage of children in India, for example, being left behind in learning is alarming, and an indication of the need for widespread awareness, early identification and specialized training for teachers in India's school systems.

Even the most literate state in India, Kerala is not shelter from learning difficulties among children. In a study with school-age children in Ernakulam district, Saji and Varghese (2020) reported 16.49% of children had signs of specific learning disorders, and this was significantly higher than the national average. Further, the Kerala State Commission for Protection of Child Rights(2020) found that an estimated 5% of students in the state required specialist educational treatment for learning disabilities. There were also findings indicating underdiagnosis and stigma are factors that impede identification and inclusion of children with SLDs (Kerala State Disability Policy, 2021) (Chacko & Vidhukumar2020). On the one hand, Kerala is known for its progressive education policies, but on the other hand, such challenges highlight the need for a focus on teacher trainings, but also for proper diagnostic tools and parental awareness around best practices for inclusion.

Kumbalangi Panchayat is a national model tourism village of India located in the Ernakulam district of Kerala awarded for integrated development, eco-tourism and local sustainability initiatives. The village is sometimes presented as a model of rural empowerment and participatory planning, and social landscape where modern development and quasi-traditional livelihoods coexist. This context makes it an interesting content to explore the learning difficulties of middle school children. And yet while Kumbalangi's identity projects a progressive image—fighting the stigma of the place as a low-class destination for tourists—rescue up this image from unwanted elements through the infrastructural and connectivity development as the region is selected for a model tourism project, there is still a serious question of evaluating in what way has the development worked up into educational inclusion and building-up a child-centered learning frameworks. Children in the Panchayat have greater exposure to tourism and the world beyond, but the educational

landscape is changing — and this change can mask latent learning needs that children are facing, especially for children with special needs. The existing work aims to investigate whether Kumbalangi's narrative of inclusive growth is also reflected in addressing learning difficulties in its school-aged children Through focusing on one particularly successful village, the research is attempting to unveil the connection between and development and educational equity—drawing the attention to a children with learning difficulties in Kumbalangi who might be struck by one of the process's unexpected negative consequences or are in a better place than others (Veselova et al., 2020).

Every effort to determine and define the learning problems which the children of middle childhood are struggling with is a part of the inclusive and equitable education system. The children of the middle age group, that is from 6 to 13 years, normally, are through critical phases of their cognitive, emotional, and academic growth. This is when the basics such as reading, writing, and arithmetic are not only taught but also assimilated. Usually, the majority of children manage to reach the next academic year, yet there are many other children who for the first time in life will have specific difficulties in learning and if are not identified and helped may become victims of stress and psychiatric diseases. Learning disorders can show themselves at the beginning of schooling and become more palpable with the increasing requirements of the educational process. One of the crucial steps in the process of identification, alongside the aforementioned standardized testing, is quick and accurate diagnosis. This will set the base for both building the potential relevant developments and giving the necessary support.

The above process of identification can be achieved through a combination of evaluation, testing, and teacher and parent means. The Rapid Automatized Naming (RAN) test, developed in 1974 by Maryanne Wolf and Martha Denckla, is an example of a reliable tool which aside from being effective is also cheap. These types of tests are used to determine both the amount of time required for children to successfully name(calling aloud) familiar items like colors, numbers, and/or letters and the correctness of their naming, consequently, the results identified make it obvious that the child has a learning disorder.

Process of identification implies a number of different options including direct observation, psychometric testing, and a collaboration between teachers and parents. It is recommended to use tools such as Rapid

Automatized Naming (RAN) test, which has been effectively employed for quite a period of time, to carry out the relevant measures. Employing such a tool can help the examiner measure the child's NIMHANS-SLD Battery, **Dyslexia Screening Test** (DST), and **Wechsler Intelligence Scale for Children (WISC)** are commonly used in India to appraise different areas of cognitive and academic abilities. The standardization of such instruments ensures that they are valid and reliable irrespective of the given socio-cultural backgrounds and other educational contexts (Jančiarová & Popelková, 2019).

Standardisation is immensely important, not just to ensure that the diagnosis is consistent, but to limit bias and error that may emerge because of linguistic, regional, or socioeconomic differences. For example, in India, the Rehabilitation Council of India (RCI) and other agencies such as NCERT (National Council of Educational Research and Training) recommend for the use of culturally appropriate and psychometrically validated tools. Kerala has introduced some initiatives at the district and school level to embed standardised screening tools within the school health and education system. Further, teacher training programs under the Sarva Shiksha Abhiyan (SSA) and Samagra Shiksha Abhiyan (SSA 2.0) have broadened awareness and early detection capabilities in government and private schools (Khanna, 2021).

But these challenges albert evolved should be still exist. These burdens include the loss of skilled professionals in rural and under-resourced schools, variability in assessment practices and ongoing social stigma related to learning disabilities. Many children who fail to fit the expected mold are still misdiagnosed as slow learners or troublemakers instead of being screened for potential neurodevelopmental deficits. Hence, in order to ensure equal access to diagnosis, support, and quality education for all children – irrespective of their background – a strong and uniform framework on identification and standardisation needs to be designed and put in place.

The present study accordingly seeks to investigate and evaluate the efficacy of such standardized tools, along with existing identification practices, for identifying learning difficulties in children of middle years. It also aims to evaluate the level of teacher readiness and institutional readiness to identify and manage these

disorders. The research aims to contribute to the burgeoning field of inclusive education and the need for more sophisticated diagnostic and intervention systems through holistic analysis and evidence-based practices.

When it comes to learning disabilities, the most common one is known as dyslexia. This is a learning disorder that applies to people who have issues reading words quickly, accurately, and with comprehension. It is the most common learning disability and affects the ability of a person to decode, recognize words fluently, have automatic rapid naming, and comprehend what they read (Handler & Fierson,2011). The presented paragraph is an overview of learning disorders. However, it has a more comprehensive meaning. The language-based learning disability is an obstacle to acquiring education and, more broadly, to a child's adaptation to the world. Dyslexia is a disruption of spoken and written language due to the difficult passage from the phonological to the orthographic stage. The goal of the remediation process is to improve decoding skills, fluency training, vocabulary, and comprehension (Ch'Ng & Jong, 2024). Developmental dysgraphia is associated with a disruption of mechanical writing skills. The goal is to develop writing skills. As our society still mainly relies on written language, dysgraphia can cause serious problems in a child's development, academic skills, and self-esteem (Dohla et al., 2018). Dyscalculia is a problem associated with arithmetic and symbolic number comparisons. For many suffering from this disability the issue comes down to a dislike of numbers and a fixed mindset. It is important for teachers to create a positive attitude towards learning maths, and to motivate students (Reeve & Waldecker, 2017). Similarly to other learning disabilities, interventions will be key. In an auditory processing disorder, the person fails to interpret the correct order of sounds in specific words. Individuals with an auditory processing disorder have a particularly hard time understanding speech in noisy environments or when there is competing speech sounds (Madruga-Rimoli et al., 2023). In a language processing disorder, difficulty arises with attaching meaning to sound groups in words, sentences, and stories (Bloomer, 1961). Often thought of as a fraction of auditory processing disorders, individuals with this disability are placed at a disadvantage since speech and language act as an origin of information on the organization and content of thought (Corcoran et al., 2020). Visual perception, fine motor, and visual–motor skills are crucial for school readiness and daily life (Dathe et al., 2020). These skills help your brain make sense of what it sees. Deficits in visual perceptual and visual–motor skills may result in poor hand–eye coordination or difficulty with sequencing, discrimination, memory, or spatial awareness. Like other learning

disabilities, these deficits may cause a student to dislike school and become resistant when asked to complete schoolwork. Developmental language disorders. Previously known as specific language impairment, developmental language disorder is a communication problem that affects learning, understanding, and using language (Saar et al., 2023). Nonverbal learning disorders. In this type of learning difficulty, learners have sufficient written skills, verbal expression, and vocabulary; however, they show deficits with nonverbal activities (Masrai & Milton, 2015). Visual spatial tasks are included in this activity, but it involves more than that; it also involves reading body language, recognizing social cues, etc. Nonverbal learning disorder does not mean that the child cannot speak.

Need and Significance of the Study

United Nations' Sustainable Development Goals (SDGs) are the most widely accepted priority global agenda for promoting population health and well-being by 2030, particularly in low- and middle-income countries (LMICs). The disability-inclusive provisions of the SDGs have catalyzed an increasing interest in children and adolescents (hereafter reported as “children”) with developmental disabilities worldwide (Biswal & Satpathy, 2021).The Convention on the Rights of Persons with Disabilities (CRPD) defines individuals with disabilities as “those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” . Developmental disabilities are often chronic physical, cognitive, speech or language, mental or emotional, or self-care conditions that typically begin in childhood before age 22 years; are likely to continue indefinitely; and require additional coordinated services, support, or other assistance for an The extended duration or during a lifetime. They represent a subset of conditions that affect children with special health care needs (Vohra et al., 2013). Children with developmental disabilities right from birth, especially in LMICs experience stigma along with negative attitudes and beliefs that place them at increased risk of neglect, exploitation, and violence, as well as premature death including infanticide (Nair et al., 2023). These children also perform significantly poorer than children without disabilities across virtually all indicators of health and educational wellbeing in early childhood (Ansari & Gottfried, 2018).

A specific learning disorder is a neurodevelopmental disorder characterized by the impairment of reading, written expression, and mathematics. The government extends a number of educational and social benefits to students with SLD, so it is important to accurately assess the prevalence of SLD. Study Design: This study is an attempt to find the prevalence of SLD and its determinants among the school-going children in Ernakulam district, Kerala, India. Methods: School-going children of the fourth standard to seventh standard were included in this study. Multistage stratified cluster sampling was employed. The screening of SLD was done using the LD screening tool, and confirmation was done using the NIMHANS index for SLD and Malin's Intelligence Scale for Indian Children (MISIC) (Chacko & Vidhukumar, 2020). Logistic regression analysis showed that SLD was independently associated with male gender, low birth weight, presence of developmental delay, family history of poor scholastic performance, and syllabus.

Aim of the study

The aim of this study is to explore the prevalence the nature and consequences of learning difficulties among children in Kumbalangi Panchayat and to investigate the barriers to identifying and addressing these challenges for children, parents and educators.

Objectives:

- To evaluate the prevalence of learning difficulties among middle school children in kumbalangi panchayat.
- To evaluate the sample with learning difficulties and grade them in the categories.
- To conduct an awareness section on learning difficulties for middle school children parents.
- To analyse the improvement in awareness of learning difficulties through comparing results of pre survey and post survey for parents.
- To examine the relationship between gender, grade school and pretest scores, posttest scores of learning difficulties of middle school children.

CHAPTER- 2

REVIEW OF LITERATURE

Theoretical Review

"Learning Difficulties" is a term that refers to the variety of challenges that hinder students from acquiring and processing or even applying the required or expected knowledge in an effective manner in an educational environment, which may come in different forms such as reading, writing, mathematics, attention, behavioural, or social interactions. The understanding of the underlying causes and mechanisms of learning difficulties is crucial for the design of the efficient measures to be implemented to help and assist the affected people.

Learning difficulties might be a result of a joint impact of cognitive, emotional, social, environmental, and biological factors, which makes it hard to identify the primary cause of the inability to learn. Throughout the years, various theoretical frameworks have been suggested to explain the reasons for learning disabilities, and these theories provide insights about the complex interrelation of factors leading to the emergence of the issue. This literature review is aimed to discuss the diverse theoretical perspectives including cognitive, psycholinguistic, social, environmental, neuroscientific, and educational ones in order

to be able to provide a profound understanding of what learning difficulties are based on the statistical data, research findings, and intervention studies.

Cognitive theories focus on the mental processes involved in learning. These theories emphasize how human beings handle information, including how they encode it for storage in their memories and retrieve it when they need to use it. The key idea of these theories is to suggest that learning problems might arise if these processes are not functioning well or they are impaired. For instance, the information processing theory suggests that the human mind works in the same way as a computer works, where the input (the stimuli) is processed and stored in memory then retrieved when required later. Learning problems arise when something goes wrong at any of the stages in the cognitive process. For example, a child might have difficulty understanding or implementing what they learn in real-time, hence cannot implement it, remember it or apply it to solve a problem. Some studies have suggested that people with learning disabilities, such as with dyslexia, have difficulty processing data and organizing it appropriately (Vasquez et al., 2019). This is the main reason cognitive theories emphasize and focus on the role of working memory in academic performance. Working memory, a cognitive system, plays a crucial role in retaining and manipulating essential details while performing intricate assignments like thinking, studying, and understanding. According to the Working Memory Model introduced by Baddeley and Hitch (1974), learning disabilities often emerge due to the lack of working memory capacity. For instance, children with ADHD and dyslexia may not be able to hold enough information to follow directions, accomplish multi-step assignments, and learn academic information. Swanson (1999) explains that research has shown that children with different learning disabilities suffer from working memory deficits. A study conducted by Alloway and Alloway in 2010 demonstrated that children with reading disabilities scored significantly lower on working memory tests than their healthy classmates, which implies that working memory deficits are a significant cause of learning disabilities.

Processing speed is the time it takes to complete cognitive tasks, such as recognizing objects, retrieving facts, or solving problems. People with slow processing speed may have difficulty completing tasks within the time limits of a classroom environment. The research says that processing speed is a significant

predictor of educational achievement. For example, a study by (Villeneuve et al., 2019) found that individuals with slower processing speeds were more likely to have difficulty with reading fluency and math problem-solving. Psycholinguistic learning theory focuses on the relationship between language development and educational achievement. This theory emphasizes the role of language processing in tasks like reading, composition, and understanding. One theory that is very commonly used to explain dyslexia and reading difficulties is the phonological processing theory. Phonological processing is the ability to recognize the spoken sounds of language and use this knowledge to read, write, and comprehend (Mann et al., 1989), proposed that one of the most widely recognized explanations for dyslexia and reading difficulties is the phonological processing theory. Phonological processing is an ability to understand and manipulate the spoken sounds of language. Dyslexia is believed to be caused by a deficit in the ability to do this, which causes the connection between writing and spoken language to become lost. It was discovered by Shaywitz in 2003 that phonological processing at phonemic level causes difficulty in children's ability to decode words. This idea is supported by statistics that show that about 10% of children have dyslexia, a condition characterized by difficulties in reading, spelling, and writing (Shaywitz & Shaywitz, 2008). Additionally, further research revealed that phonological processing difficulties at phonemic level are the core symptoms of dyslexia, and they can be traced back to brain scans that show abnormal activation in the brain areas responsible for phonological processing (Shaywitz 2003). Language Deficit Hypothesis maintains that reading and writing problems result from language development problems. In this case, the hypothesis indicates that problems in vocabulary acquisition, grammar, or syntactical processing can result in poor academic performance. In addition, students with language deficits may have difficulties in understanding complex texts, expressing ideas, and producing written texts. The hypothesis is supported by previous studies, which indicate that language impairment may predict learning difficulties, particularly in the early stages of development. A longitudinal study conducted by (Smart et al., 2001) demonstrated that children with early language delays were likely to develop reading and writing problems by the age of 7.

Several social and environmental theories have been used to explain the causes of learning difficulties. For example, the social model of disability emphasizes the role of societal constructs, such as the family,

school culture and socioeconomic status, in causing learning difficulties. In this case, the model assumes that a learning disability is caused by societal constructs rather than individual mental health conditions. On the other hand, the environmental theory of disability implies that learning disabilities are caused by environmental factors, such as family, school, and socioeconomic status. Therefore, the model assumes that learning difficulties are not caused by cognitive impairments but by environmental conditions. Vygotksy's Theory of Socio-Cultural development implies that human development is a socially mediated process, and cultural tools, such as language and literacy, play a crucial part in it. According to Vygotksy (1978), children become able to learn through social participation in the social environment. The theory suggests that children who have learning problems may fail to do so due to the lack of social interactions or sufficient instruction support. The truth of the theory is that social factors, such as family literacy practices, access to school library and peer support, indeed significantly affect students' achievement. For instance, students whose parents are more involved in their literacy practices and have a good social support network demonstrate a higher level of achievement than students from disadvantaged homes. Facing challenges (Vygotsky, 1978). There is the ecological system theory by Bronfenbrenner (1979) that reveals the interconnectedness between the child's development and a number of environmental systems such as the family, the school, the community, and society. A child may experience learning difficulties when any of these systems fail to offer the required support or resource. Children from low-income families may not have access to high-quality educational resources, which may hinder their academic performance. The theory is supported by statistical data. For instance, Sullivan and Brown (2015) found that children from low-income families were more likely to experience learning difficulties due to the lack of adequate home learning environment and limited access to educational resources. There is also neuroscientific research, which reveals that a child with dyslexia may have an abnormal brain activity pattern, especially if it is noticeable in the left hemisphere, which is related to language processing. For instance, brain imaging studies indicate that the functioning of such regions as the left temporoparietal cortex, which is engaged in phonological processing, is less activated among individuals with dyslexia (Shaywitz, 2003). This finding gives strong evidence of learning disabilities having a biological basis. It suggests learning disabilities are not due to bad teaching alone but also to some neurological differences.

Brain scans showed that specific interventions such as phonics based reading programs can activate those regions. They can, therefore, help in improving the reading skills of children with dyslexia. The same theories have been used in research on attention deficit hyperactivity disorder (ADHD). Brain-based impairments especially in the prefrontal cortex have been used to explain ADHD. The prefrontal cortex is responsible for attention, impulse control, and executive functions (Castellanos & Tannock, 2002). Children with ADHD have impairments in the pre-frontal cortex. Therefore, they have problems in focusing, organizing tasks, and controlling themselves.

Differentiated Instruction (Tomlinson, 2001) is a teaching approach that adjusts instruction to meet the needs of individual students. The content, process, and products of learning are adjusted to fit the needs of each learner. Using this kind of instruction, teachers can support students with learning disabilities. Universal Design for Learning (UDL) (Rose & Meyer, 2002) is a teaching practice that aims to increase students' engagement, representation, and presentation by providing multiple methods of engagement, application, and expression to accommodate various learning needs. The practice of UDL has been found to improve academic results for students with disabilities and learning problems that is related to the person, thereby promoting the development of personalized and inclusive learning environments.

Review of literature pertaining to the study on **"Learning Difficulties Among Children in Kumbalangi Panchayat"** is given under the following headings.

1.1. Learning Difficulties : Definition

1.2. Demographic profile

1.3 Characteristics

1.3.1. Victims

1.3.2. Perpetrators

1.4 There are multiple factors linked to learning difficulties in children

1.5. The impact of Learning Difficulties

1.6. Laws relating to learning disabilities in children.

1.1. Learning Difficulties: Definition

Learning difficulties in children are defined as a wide range of challenges that impede the ability of a child to process and keep information as compared to the average or normal child. These difficulties do not necessarily mean that the child is not intelligent, in fact, many children with learning difficulties have average or above average intelligence. However, this does not necessarily mean that they will not have problems in some academic areas such as reading, writing, and math, which can affect their overall learning ability.

A study carried out by the National Institutes of Health (NIH) has established that about 5-10% of children in the world go through some learning problems (Shaywitz, 2003). The most common learning disabilities like dyslexia, dyscalculia, dysgraphia and ADHD are common in children. Dyslexia, a learning disability that affects reading, is one of the most common disabilities, with about 5-7% of children being affected by this disability (Shaywitz, 2003). Children with dyslexia often have difficulties reading words, spelling words and understanding written text, despite their normal intelligence. Dyscalculia, a learning difficulty that affects the ability to grasp basic math concepts and to perform basic arithmetic operations, is another common learning difficulty, but there is less information about its prevalence than there is about dyslexia (IDA).

The international Dyslexia Association (IDA) research shows that between 3-6% of children may display signs of dyscalculia. Dysgraphia, a learning disability that affects handwriting and writing organization, is also common, affecting about 10% of children (National Center for Learning Disabilities, 2014). Dysgraphia in children is typically characterized by poor letter formation challenges in organizing their thoughts on paper, producing written work at a reasonable rate, and ADHD which impairs attention, impulse control, and hyperactivity affects approximately 5-7% of children worldwide (Faraone et al., 2015), while not a learning disability, ADHD significantly impact a child's ability to focus, complete tasks,

and follow directions in the classroom (Covin et al., 2015). The statistical data supports the argument that when learning difficulties are detected early and children were given the right help, the outcomes are likely to be very positive. The research data is in line with the National Institutes of Health (2014) claim as it states that "research has shown that children who receive early intervention to address their difficulties have a higher chance of success in their education than children who receive help later".

1.2. Demographic profile

The demographic characteristic of children with learning difficulties entails various factors such as age, gender, socioeconomic status, ethnicity, and geographical location. These factors have a considerable impact on the prevalence, identification, and outcomes of learning difficulties. The factors have a considerable impact mainly, on when and how learning difficulties are identified. Also, the factors affect the support and interventions that children with learning difficulties are offered. The knowledge of the demographics of learning difficulties is important for educators, healthcare professionals, and policymakers in developing strategies for addressing these challenges. Learning difficulties can be detected as early as pre-school time, but usually, they are diagnosed at the elementary school level, when a child is supposed to become proficient in such academic skills as reading, writing, and arithmetic. Early identification of learning difficulties is very important, as it dramatically increases the likelihood of positive outcomes. However, in some cases, children might not experience significant academic problems until much later, and this is particularly applicable to situations when a child is required to perform more complex tasks, such as to learn advanced mathematical skills or writing. It has been determined that pre-school aged children can demonstrate developmental delays in speech, motor skills, or early literacy that might be early signs of learning difficulties. In contrast, primary school children are primarily diagnosed with learning difficulties, such as dyslexia or dyscalculia, only when they have to master the material that is part of the formal education, such as learning how to read and do basic math. Even during adolescence, learning difficulties may persist, particularly in the subjects that require developed problem-solving and writing skills, and this problem can, therefore, last during the middle school and high school years. It should be noted that gender might also play a significant role in diagnosing learning difficulties.

Studies consistently show that boys are much more likely to get a diagnosis of LD, or learning disability than girls, and they are particularly more likely to be diagnosed with ADHD, Attention-Deficit Hyperactivity Disorder and dyslexia. Studies show that boys get a diagnosis of ADHD at a rate that is three times higher than girls (Faraone et al., 2015). The symptoms of ADHD, such as hyper activity, impulsivity, and inattention, are often more severe and overt in boys, which results in an earlier and more frequent diagnosis of this condition among boys than girls. Also, girls are less likely to get a diagnosis of dyslexia, a language based learning disability, with the International Dyslexia Association, or IDA, reporting that according to the majority of the studies, two to three boys are diagnosed with dyslexia for every girl (Shaywitz, 2003). However, there is some evidence that girls with dyslexia may be under diagnosed or misdiagnosed for a number of reasons, possibly due to the differences in how the condition manifests among females. One particular example of differences between boys and girls with learning disabilities in general, and dyslexia in particular, is the socioeconomic status of the student, which plays a crucial role in identifying learners with learning disabilities and providing assistance to them. Children from low income homes in particular may face additional challenges, such as being diagnosed at a later age due to the lack of health insurance or a family physician. They are also more likely to have less adequate access to educational interventions. The resources delay the identification of learning difficulties. For this reason, children from low-income backgrounds are less likely to get the necessary support in a timely manner, which can trigger poor academic performance and emotional challenges. In contrast, children from more prosperous families often have more opportunities for getting specialized educational services, such as learning support, therapy, tutoring, or IEPs, helping them cope with their learning difficulties. This difference in access to resources means that children from lower-income families are at higher risk of underperforming, while children from more affluent families are prone to succeed despite their learning difficulties. The ethnic and cultural factor also plays a crucial role in that both the identification of learning difficulties and support provided depend on the ethnic background. This means that cultural perceptions of learning difficulties and language barriers affect the identification and support of children from different ethnic backgrounds. In some cultures, there may be a social stigma associated with learning difficulties, deterring parents from seeking help, or schools from diagnosing and addressing

these problems. Also, language barriers can result in misdiagnosis. For example, children who are learning English as a second language may struggle with acquiring the language, and their struggle may be misdiagnosed as dyslexia, when in fact, it is related to language proficiency. Moreover, students from non-English-speaking backgrounds may be less likely to get the help they need, due to the unavailability of culturally relevant educational programs or diagnostic tools. Therefore, it is important for school employees to know the difference between language acquisition and a real learning disability. A child's geographical location plays a significant role in their access to learning difficulty services. This is due to the location of specialized clinics and learning centers. Urban areas generally have more clinics, centers, and professionals than rural areas. Additionally, urban areas are more able to identify and intervene early, as they have more resources. Nevertheless, a number of settings retain have to wait for the help to arrive more unique challenges. They are less likely to have access to the same resources, and rural areas may lack sufficient specialized support services, trained educators, and healthcare professionals. Consequently, children in coming rural areas may experience a delay in the diagnosis of their condition, limited intervention, and ongoing academic problems that could be resolved with better resources. Certain kinds of learning difficulties are more prevalent in particular demographics. For example, dyslexia is among the most common learning disabilities and affects anywhere from 5-7% of school-aged children worldwide (Shaywitz, 2003). The prevalence of ADHD is also high, with 5-7 % of children diagnosed worldwide (Faraone et al., 2015). Boys, not girls, are more often diagnosed with both these conditions. Another common learning difficulty, dyscalculia, affects about 3-6% of children (International Dyslexia Association), although in most cases it is not diagnosed until later years when more advanced mathematical concepts are encountered. The demographic profile of children with learning difficulties also affects children's academic outcomes. Statistics indicate that children from backgrounds that are deprived are more likely to face challenges like academic failure, low self-esteem, and school dropout. Those with undiagnosed learning difficulties or learning disabilities that are not supported are more likely to fail academically and drop out of school. Research is clear that students having learning problems who receive early and correct interventions are 60% more likely to succeed academically and graduate from high school (National Institutes of Health, 2014). Realization of the significance of profiling and early

intervention in children with learning problems is critical. It can assist in helping children with learning problems in overcoming barriers and increase the likelihood that they will achieve academic success.

1.3 Characteristics

1.3.1. Victims

Students who experience learning difficulties usually demonstrate some traits that influence their academic, emotional, and social growth. Such students, who are considered victims of the learning disability, might have

problems when it comes to their academic performance, emotional well-being, and social interactions. One of the common traits among such students is that they perform poorly in their academic work. idefined in terms of specific subjects like reading, writing or math despite having average or above average intelligence. For instance, children with dyslexia might experience difficulties with understanding the text as a whole, the pronunciation of words, and spelling while children with dyscalculia struggle with the basic mathematical concepts. As a result, these difficulties can lead to the gaps in the academic progress of these children. Furthermore, children with learning disabilities can demonstrate inconsistent progress in their academic achievements. They might be outstanding in some areas but face significant problems in the others leading to frustration. Besides, such difference in achievements also leads to the lack of confidence in such children, which is why they may continue to face more and more struggles. As a result, such problems can be associated with the emotional and social wellbeing of the child as such individuals face the risks of low self-esteem due to the failure in academics. Such children might think that they are not capable enough to do something as well as their peers, which can lead to low confidence and the lack of motivation. As the result, children might start feeling frustrated and anxious as they have to face the burden of inadequacy. Children might also feel the pressure associated with the unmet academic expectations and start feeling different from other children. In this case, children can suffer from the withdrawal in terms of their social and emotional behavior, which is why they might start feeling depressed, avoid the social gatherings, and start feeling emotionally withdrawn because they might be blaming themselves for the inadequacy. Children with learning difficulties might show behaviour

problems as a result of frustration or sensation. They may act out in class, disrupt lessons, or avoid school altogether. These behaviours often result from their inability to cope with academic expectations. Besides, social difficulties are common for this group of children. They may find it hard to form meaningful relationships with peers because they either struggle academically or because of their communication difficulties. Bullying is a significant concern in the lives of these children aged between 6 and 13 because they are often targeted for being different, leading to feelings of social exclusion and isolation. Finally, these children often have a high need for the provision of additional educational support. Addressing the needs of these children is challenging, but it can be achieved through the use of appropriate methods of teaching, provision of the required resources, and proper communication with the teachers. At times individuals face certain challenges which might necessitate them to require additional services such as Individualized Education Programs (IEPs) or 504 Plans. These services can provide students with certain accommodations such as extra time for assignments, modified tasks, and even one-on-one support. These are accommodations which are designed to help students succeed in school.

1.3.2. Perpetrators

Perpetrators in the context of learning difficulties refers to those who contribute to the academic struggles of children or hinder their ability to overcome challenges. These persons can be in different roles including teachers, peers, family members, and broader educational systems. The impact of these individuals or systems on children with learning difficulties can worsen the academic struggles. One of the main perpetrators is often the educational system, especially teachers who may not fully grasp or identify learning difficulties. Teachers who are not specialized in special education, or are not informed about specific learning disabilities may conclude that a child is having academic struggles because they are lazy or are not putting enough effort as opposed to them having a learning disability. Such ignorance about the issue can contribute to the child not getting the required help hence hindering their academic achievement. Also, when teachers do not offer enough help or make necessary accommodations, it can leave children with learning difficulties feeling unsupported and marginalized. In some cases, teachers may hold biased or negative views about students with learning challenges, resulting in unfair treatment or lowered

expectations for these students. Peers can also be perpetrators in the form of bullying or social exclusion. Children with learning difficulties are often seen as "different" by their classmates, making them vulnerable to bullying and social ostracism. Bullies might target children with learning difficulties, ridiculing them for their struggles with reading, writing, or math. This bullying can further damage the child's self-esteem, making them feel inferior or isolated. Additionally, social exclusion is common, as peers may avoid interacting with children who struggle academically, deepening the child's sense of isolation and affecting their social development. Parents or family members can also contribute to the challenges faced by children with learning difficulties. In some cases, unrealistic expectations may be placed on the child, leading to unnecessary stress. Parents may not understand the nature of their child's learning difficulties and may expect them to perform at the same level as their peers, which can lead to feelings of inadequacy and frustration for the child.

1.4 The Factors Associated with Learning Disabilities of Children.

One of the major causes of learning problems is biological. These include factors such as genetic, neurological, and brain factors which are responsible for a child's cognitive development and learning ability. Genetic inheritance is one of the main biological factors. Research has been conducted to show that learning problems are hereditary. Children with a family history of learning difficulties are at a high risk of having similar difficulties. A lot of research has been done that shows that dyslexia is a hereditary learning problem. It has been proven beyond any reasonable doubt that genes play a role in determining a child's ability to read and write. Twin studies have shown that monozygotic twins are more likely to show similar learning difficulties than dizygotic twins. This is one way of proving that learning is also influenced by genetic factors.

Biological factors are among the primary causes. Genetic, neurological, and brain factors are the main contributor to how a child is able to learn. According to research, learning problems run in families, and the predisposition may be hereditary. Dyslexia is one of the most common reading disorders caused by genes. This condition affects the child's ability to read and write. To illustrate, research has shown that there are specific genes that are related to language and brain development. The presence of these genes

in children with dyslexia was higher as compared with the control group. Twin studies also showed that monozygotic twins were more likely to have similar learning difficulties. This is a clear indication that genetic factors play a role in learning. Both environmental and biological factors play a significant role in determining how a child learns. Although the two are genetically inherited, dyslexia can be inherited as well. Exposure to certain physical or social conditions is among the factors that can lead to learning difficulties. Such environmental influences can range from prenatal factors to factors present during the child's school life. Prenatal factors are the factors that are already present when the child is born. The factors are the environmental influences that can affect the child by disrupting the natural development process of the child. Maternal health and behavior during pregnancy are the factors that can lead to learning difficulties in a child. Maternal smoking, alcohol consumption, drug use, and malnutrition during pregnancy affect the development of the child's brain and can cause learning difficulties in a child. In addition, children who are born prematurely or are born with low weight are at a higher risk for learning difficulties. The children are at higher risk of learning difficulties because they are born with underdeveloped brains that affect their ability to learn. School-related environmental factors are also among the factors that affect the development of the child's brain. The factors include poor instruction, inadequate resources, and lack of teacher support. The factors can either facilitate or hinder the child's ability to learn. Children who receive inadequate instruction and attend schools with limited resources will struggle to learn Academic skills are another factor for success. Also, messy and noisy classroom environments can affect the concentration of a child, which can also impact their academic performance. In addition, sociocultural influences such as family background, socioeconomic status (SES), and culture can cause learning difficulties. Children from lower-income backgrounds have trouble learning because of the above-threshold influences. Poor children are not exposed to quality academic resources, such as books and tutors. They also have limited access to extracurricular activities. As such, the time that they spend in the classroom is no longer enough to deliver quality learning experiences. Psychological factors such as the child's emotions and cognition can cause learning difficulties. A child's ability to focus, process information, and regulate emotions cause learning difficulties. Attention problems are the basic source of learning difficulties. A child with ADHD will focus briefly, be disorganized and impatient, which limits

their understanding effectively. The inability to focus in the classroom or complete tasks on time can hinder academic progress and contribute to feelings of failure and frustration. Similarly, children with anxiety disorders or depression may have trouble concentrating, which can negatively impact their learning abilities.

1.5. The impact of Learning Difficulties

The Impact of Learning Difficulties

Learning difficulties can have significant and far-reaching effects on a child's academic, social, and emotional development. These issues can spill over from the classroom, impacting many aspects of the child's life. Educationally children with learning disorders may flounder against their counterparts, especially in subjects like literacy, numeracy, and comprehension. This could result in poor educational outcomes, despair, and low self-esteem. Habitually students who cannot learn may develop a negative attitude towards schooling and learning making them disengaged and lack motivation to learn. The lack of knowledge would be lifelong impacting on their education and professional development. The challenges are not only educational but also social and emotional. Children who cannot learn may lack interest in participating in peer activities leading to isolation. Others may have a problem in engaging in co-curricular activities because of their habits, leading to a strained relationship with their peers. Their peers may not understand the nature of their nature leading to bullying or stigma. Children may develop a sense of helplessness or inadequacy if they continually feel that they are not living up to the expectations of the people around them. This condition may increase their susceptibility to anxiety, depression, and a wide range of other mental health issues while also influencing their life outcomes in the long-term. If they do not receive adequate support, they may continue to face these challenges throughout their lives, with the risk of such difficulties becoming even more acute as they grow older and achieve success. The right accommodations specialized teaching methods, and a supportive environment can significantly mitigate the impact of learning difficulties and enable these children to reach their full potential.

1.6. Laws in respect of learning difficulties among children

In Kerala laws and policies related to learning difficulties are primarily geared toward providing inclusive education and safeguarding the rights of children with disabilities, including those with learning difficulties. Kerala is known for its progressive approach to education, and the state government has taken significant steps to ensure that Youngsters with learning problems are not ostracized. Existing legislation is predominantly based on national laws; however, there are certain provisions in state laws that confirm the need for inclusive education. The Rights of Persons with Disabilities Act, 2016 (RPWD Act), which is consistent with the United Nations Convention on the Rights of Persons with Disabilities (CRPD) is the most important legal document in India. This is a law in which children with disabilities are to be guaranteed free and compulsory education until the age of 18. Children with disabilities, including children with learning problems, are to be educated in common schools. The law provides that they are to be provided with necessary support services and reasonable accommodations. In this law, both special education and assistive technology are made compulsory, with the intention of providing an equal educational opportunity to all individuals.

The National Policy on Education (NPE) emphasizes the necessity of providing special education services to children with disabilities. Kerala has adopted the national policy and has attempted to practice it in its educational system. This ensures that children with learning problems are provided with necessary support. KSCPCR (2012), Kerala State Commission for Protection of Child Rights in Kerala. The KSCPCR (2012) plays a key role in protecting and guaranteeing the rights of children with learning disabilities. In Kerala, there is also inclusive education at the state level, such as the Kochi Declaration of 2012, which promotes the inclusion of children with disabilities in the classroom (National Child Protection Authority 2012). The main aim is to create an inclusive educational environment for children with learning disabilities, so that they have equal access to the learning process, and all children, regardless of the learning disability, have equal access to learning resources such as resource rooms, aids, learning materials, and special educational programs. In addition, teachers also receive training programs that aim to give them skills of training children with learning disabilities. The policy framework in Kerala ensures that children with learning disabilities are not segregated from the learning system. Therefore, the country complies with the laws of the United Nations in ensuring that children with learning disabilities are not

excluded from the learning system but are taught in an inclusive manner. The country adheres to the laws on inclusive education and promotes inclusive education by creating policies that ensure that children with learning disabilities receive the required support to progress academically and socially.

CHAPTER- 3

METHODOLOGY

Methodology in research denotes the methods used to identify and study information concerning a specific research area. The term can also be used to describe the research plan developed to achieve set objectives. Research methodology includes all of the key aspects of research, such as data collection, data analysis, research design, and the overall structure of the research.

A study is an organized process. It involves several stages that help a researcher answer a particular question. The methodology of the present study is discussed under the following headings.

3.1 Selection of Area

3.2 Selection of Sample

3.3 Selection of Survey Method

3.4 Selection of Research Tool

3.5 Conduct of the Study

3.6 Analysis of data

3.1 Selection of Area

The study is be carried out in Kumbalangi Panchayat, Ernakulam district, Kerala, a region that was chosen for its diverse socio-economic background. The area has a number of government and private schools, meaning that it is a suitable location for assessing learning difficulties.

3.2 Selection of Sample

The study began by selecting 100 children from a few of the primary schools in Kumbalangi Panchayat. From the Initial 100 of them, 30 children were selected based on a pre-survey for a detailed assessment. The sampling size age group between 8 to 13 years of age in middle school children .These 30 children participated in an awarness class and finally a post-survey was conducted to check the impact of the awarness class on the children.

3.3 Selection of Survey Method

A descriptive survey method is used to assess the prevalence and contributing factors of learning difficulties among children. The study follows a pre-survey and post-survey approach where data is collected before and after an awareness intervention to measure changes in learning-related difficulties.

3.4 Selection of Research Tool

RAN (Rapid Automatized Naming) Questionnaire is used in the study. It was designed by Maryanne Wolf and Martha Denckla in 1974 at Kennedy Krieger Institute, Baltimore, Maryland, USA. The tool is primarily used to assess cognitive processing speed and highlights the existence of learning issues amongst children. The above process of identification can be achieved through a combination of evaluation, testing, and teacher and parent means. The Rapid Automatized Naming (RAN) test, developed in 1974 by Maryanne Wolf and Martha Denckla, is an example of a reliable tool which aside from being effective is also cheap. These types of tests are used to determine both the amount of time required for children to successfully name(calling aloud) familiar items like colors, numbers, and/or letters and the correctness of their naming, consequently, the results identified make it obvious that the child has a learning disorder. Furthermore, the fact that a child with the help of RAN can identify the wrong or right color, letter, and number, for example, proves that the child is capable of success. Alongside tools like the RAN, there exist instruments like the Random Sampling of the Poisson Process test, which is a proven reliable method to assess a student's ability to estimate group size. With a purpose to measure the distribution of the number of times an individual has to give a guess out of n cells, this tool provides an efficient and fairly additive set of probabilities. Based on the theory of analysis, it is the random sampling process followed by the Poisson model which enables the determination of the mean of the distribution

largely due to the relation with Poisson models that allows the early extraction of the probability that the batch size remains unchanged for the next switch. (Given appendeces 1)

3.5 Conduct of the Study

Pre-survey is conducted in twenty identified children from the 100-sample group using the RAN questionnaire to asses their learning difficulties.

Awareness Class (AC): Awareness class was conducted for the selected 30 children. The AC was a structured program which was designed by the researcher to provide strategies and interventions for the selected children to improve their difficulties

There were a few more enhancements and interventions after the awareness class that were put into effect. The second RAN questionnaire was taken to evaluate any improvements or changes.

Data Collection: Responses and behaviours observed from both surveys were recorded systematically for further analysis.

3.6 Analysis of Data

The collected data from the pre-survey and post-survey are then coded and analyzed using the SPSS software.

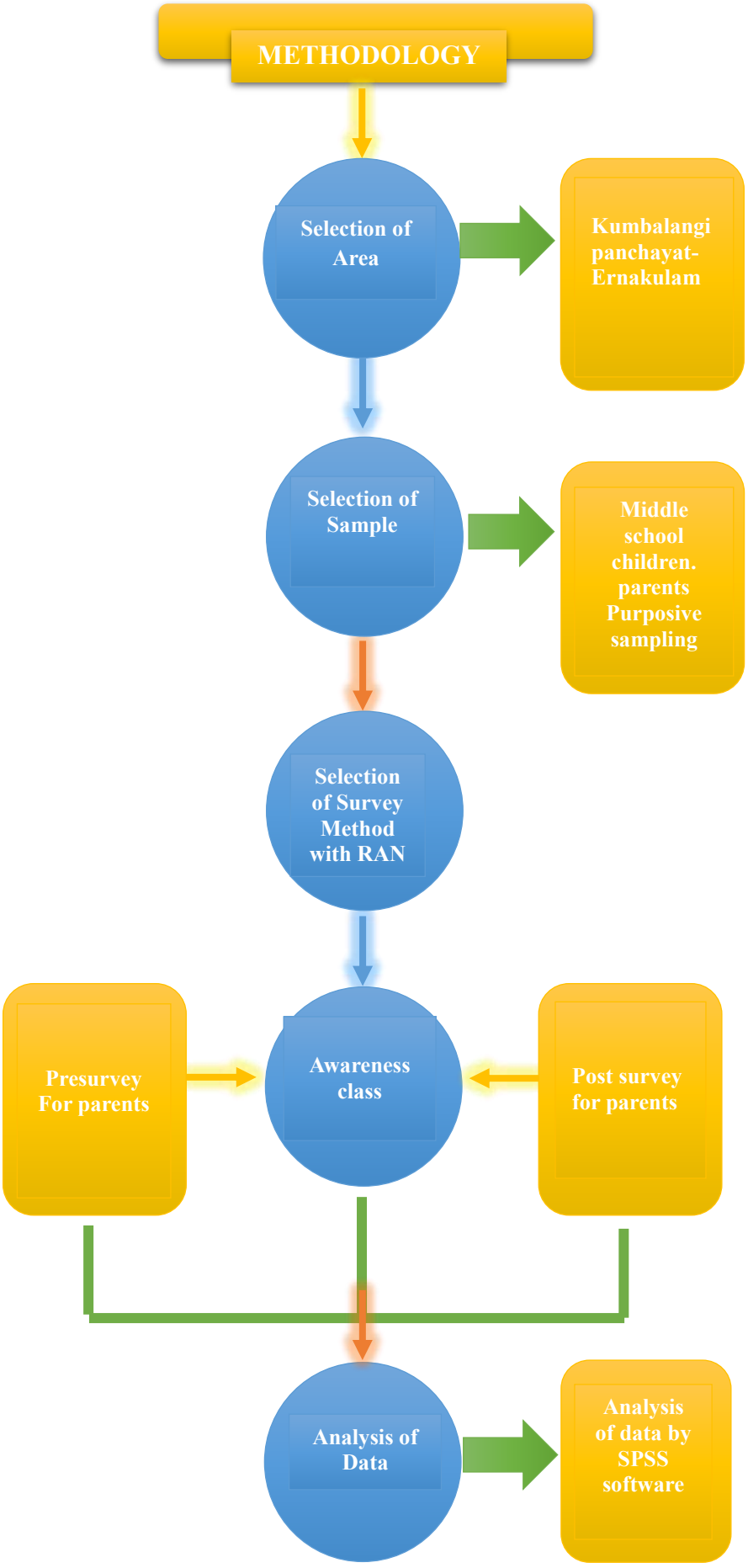
Statistics that are descriptive in nature are used to diagnose patterns in learning problems.

Conducting comparative analysis between pre-survey and post-survey results give an insight into the effectiveness of the awareness intervention.

Chi-square techniques and regression analysis are used to test the relationships between socioeconomic and learning difficulties.

RESEARCH DESIGN

The figure given below depicts the research design of the study entitled “Assessment of Learning difficulty among middle school children in kumbalangi panchayat”



CHAPTER-4

RESULT AND DISCUSSION

RESULT

This chapter outlines the findings and result of the study and its discussion in detail obtained from the data analysis done. The results are organized into the following sections

4.1 To evaluate the prevalence of learning difficulties among middle school children in kumbalangi panchayat.

4.2 To evaluate the sample with learning difficulties and grade them in the categories.

4.3 To conduct an awareness section on learning difficulties for middle school children.

4.4 To analyse the improvement in awareness of learning difficulties through comparing results of pre survey and post survey.

4.5 To examine the relationship between gender, grade school and pretest scores, posttest scores of learning difficulties of middle school children.

4.1. To evaluate the prevalence of learning difficulties among middle school children in kumbalangi panchayat.

The data clearly provides an acute problem of learning difficulties in the children from the sample. According to the figures, 46 % of the kids have diagnosed issues in learning among which the most frequently occurring subject areas are reading, writing and math. However, the majority of students got a score above 10 in the academic test, which was quite a substantial part of them still struggling in writing (39 % scored ≤10) and reading (37 % scored ≤10). Perhaps most critically, the individuals who exhibited particularly high ADHD scores were 82% of the students, demonstrating attention-related difficulties. In addition to the above, academic frustration is an everyday thing, with 26% reporting much experience and 31% another group saying sometimes difficulties are faced. Alongside, 47% of them said that there has been no improvement in their learning, and 42% of them simply don't want to deal with that reflected in the confidence and motivation issues of the students. It is worth noting that 61% of students think that they have minimal confidence in academic competition, which stresses the necessity for effective measures of intervention like customized teaching, and awareness programs, to aid these students in dealing with the problems of learning.

Table 4.1: Distribution based on general information of the sample

General information	Categories	Frequency (N=100)	Percentage (%)
Gender	Female	46	46%
	Male	54	54%
Age	7	1	1%
	8	3	3%
	9	6	6%
	10	25	25%
	11	32	32%
	12	27	27%
	13	6	6%
Grade	2	1	1%
	3	5	5%
	4	6	6%
	5	28	28%
	6	29	29%

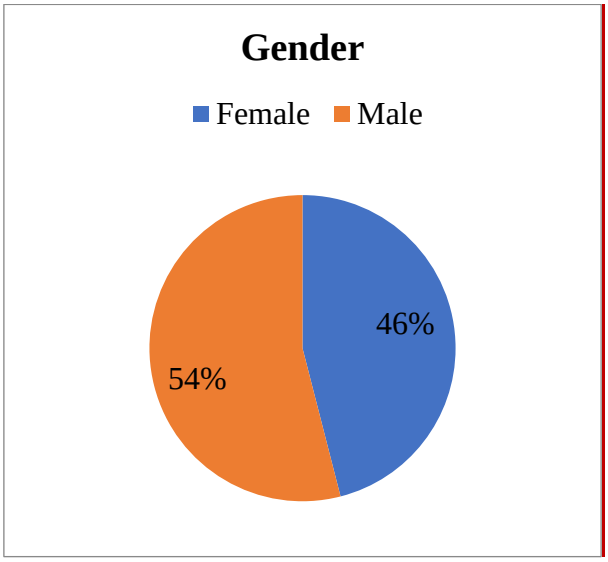
	7	26	26%
	8	5	5%
School	Government	11	11%
	OLF	19	19%
	St. Anne's	14	14%
	St. George	5	5%
	St. Joseph	15	15%
	St. Peter	29	29%
	Others	7	7%
Known Learning Issues	No	54	54%
	Yes	46	46%
Types of Learning Issues	No Issues	51	51%
	Attention Issues	4	4%
	Speaking/Reading Issues	18	18%
	Math Difficulty	9	9%
	Writing Issues	14	14%
	Writing & Reading Issues	4	4%
Frustration in Academics	Never	6	6%
	Often	26	26%
	Rarely	37	37%
	Sometimes	31	31%
Improvement in Academics	No	47	47%
	Somewhat	31	31%
	Yes	22	22%
Avoidance of Subjects	No	58	58%
	Yes	42	42%
Attitude Towards Learning	Sometimes	63	63%
	Rarely	23	23%
	Most of the Time	14	14%
Academic Confidence	Excellent	5	5%
	Good	23	23%
	Moderate	7	7%
	Needs Improvement	4	4%
	Poor	61	61%

(Table 4.1.1) Gender: There are marginally more boys (54%) than girls (46%) in the sample. It represents majority of boys in the sampling. Then (Table4.1.2) Age & Grade: The most popular ages are 10 (25%), 11 (32%), and 12 (27%). Most of the children are in grades 5-7. Here denotes age representation of children. (Table 4.1.3) School Type: The massive part of the students go to St. Peter's (29%), then followed by OLF (19%) and St. Joseph (15%). (Table 4.1.4) Learning Issues: Almost half

of the students (46%) have known learning problems. The most typical problems are speaking/reading difficulties (18%) and writing issues (14%). (Table 4.1.5) Frustration in Academics: 31% "sometimes," 26% "often," and 37% "rarely" are the percentages of the student's frustration in the academics. (Table 4.1.6) Improvement in Academics: Almost 50% claimed no improvement, whereas 30% felt "somewhat" better. (Table 4.1.7) Avoidance of Subjects: 42% of students are actually not fond of some subjects and try to get away. (Table 4.1.8) Attitude Towards Learning: 63% of the students have a double (friendly and opposite) attitude ("sometimes"), while 14% are conservative "most of the time."(Table 4.1.9) Academic confidence: Over half (61%) are nearly (poor) of their level.

4.1.1. Gender of the sample

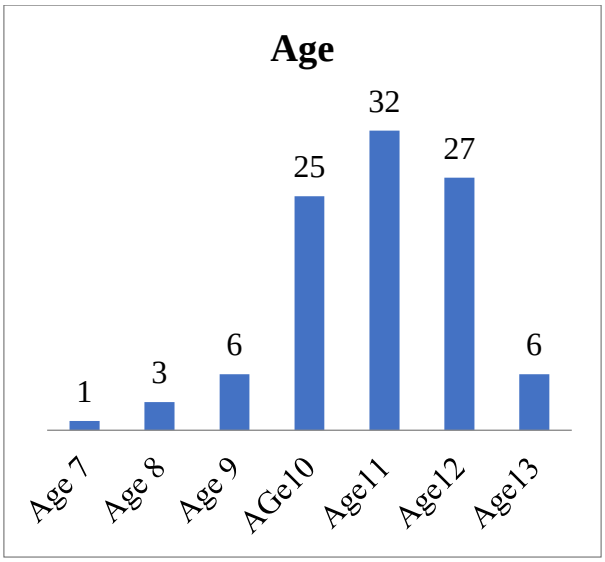
Figure :2



The distribution of gender in the sample of 100 children reveals that boys are a little more than girls. In numbers, in particular, 54% of the participants are boys, and 46% are girls. It shows a balanced distribution but with less male predominance

4.1.2. Age of the sample

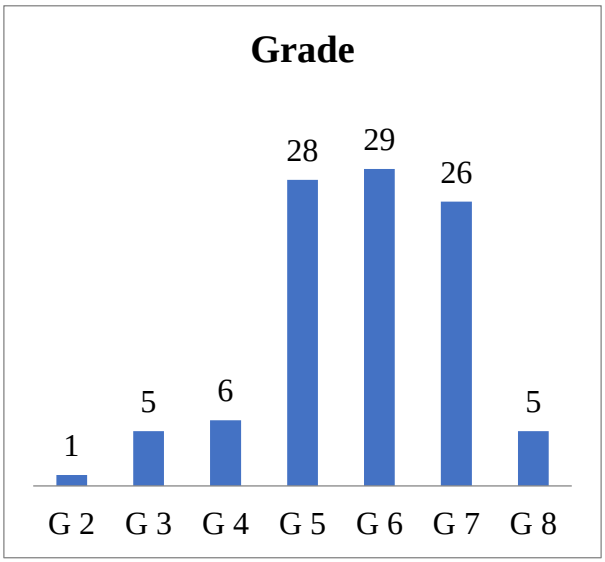
Figure: 3



The age range among the 100 children in the sample extends from 7 to 13 years, where the majority appears in the 10 to 12-year group. Most of the participants, namely, 32 children are 11 years old, followed by 27 children aged 12 and 25 children aged 10. This data suggests that the bulk of the sample are kids in the middle ages, which is in accordance with the focal scope of the investigation of learning difficulties within this age group. Additionally, the number of participants in both the lower and upper age groups is quite small, represented only by 1 child aged 7, 3 aged 8, 6 aged 9, and 6 aged 13. From this distribution, it is evident that the study is primarily about children who are at an important developmental stage in terms of academic and cognitive progress.

4.1.2. Grade of the sample

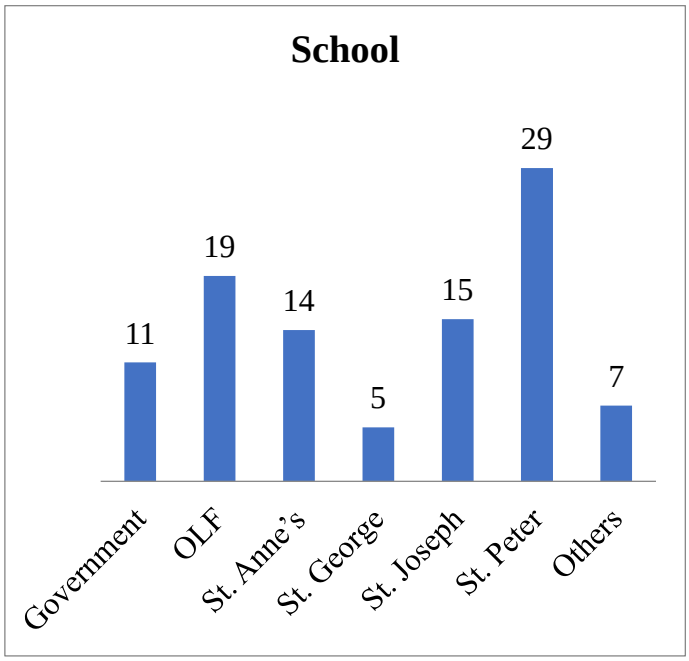
Figure: 4



The distribution of grades among the 100 children in the sample gives us students who are concentrated in the middle school levels. A big majority of participants are occupied by Grade 6 (29 students) along with Grade 5 (28 students) and Grade 7 (26 students) which make up the sum of three grades. This seriously, shows that most of the students are in grades that are in the middle and this confirms that the study is particularly focusing on students with a lot of academic and learning problems at this stage of their academic life. Some of the sides of the grade spectrum show smaller numbers of students with a minimum of 1 student in Grade 2, 5 each in Grades 3 and 8, and 6 in Grade 4.

4.1.4. School of the sample

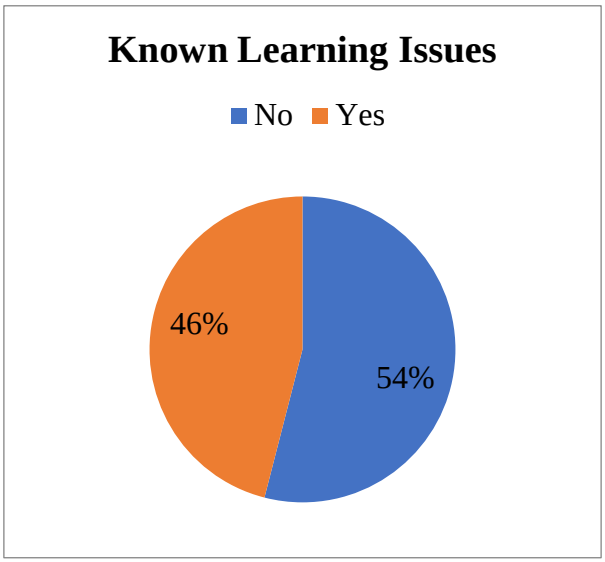
Figure: 5



The data organized by school of the sample of 100 children illustrates a wide representation across various educational institutions. The largest segment of the students that is 29 children is from St. Peter School. OLF School follows behind this with 19 students and St. Joseph School with 15 students. St. Anne's School provides 14 students and Government Schools 11. The other two categories are the least represented, with only 5 students, St. George School, and 7 students, others category.

4.1.5. Learning issues of the sampling

Figure: 6

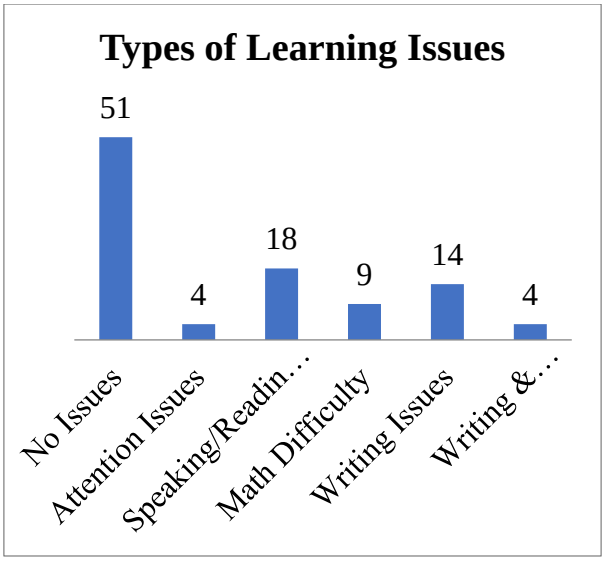


In a 100 student sample, it is now found that 46% of them already have an identified learning disability (ies), while 54% are showing no problems with their learning. This clearly explains that 50% of students have already been found to be having various issues which may affect them in their academic performance, social development, or even cognitive growth.

.

4.1.6. Types of learning issues of the sampling

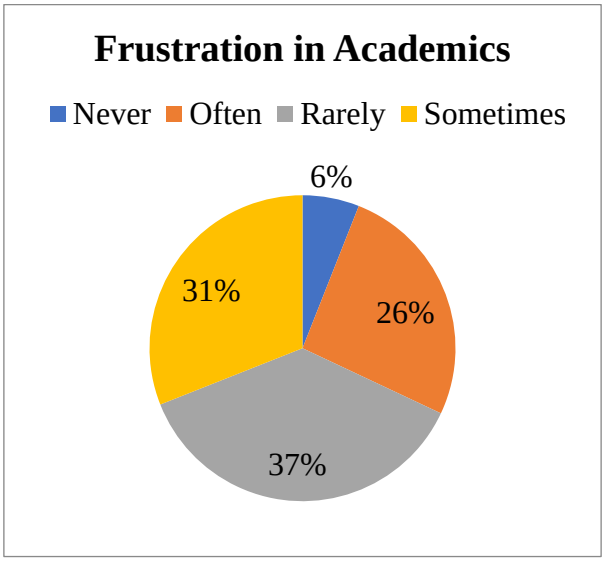
Figure: 7



Almost half of the students (approximately 46%) are exposed to learning disabilities which is a serious problem within the student population. Among these, the most common difficulties refer to speaking and reading that have affected 18% of the students. Amongst the key factors, there might be such things as speech delay, dyslexia, or comprehension problems, which would decrease the students' ability to communicate and receive written information. Writing problems are also considered as general ones because they affect 14% of students.

4.1.7. Academic frustration of the sample

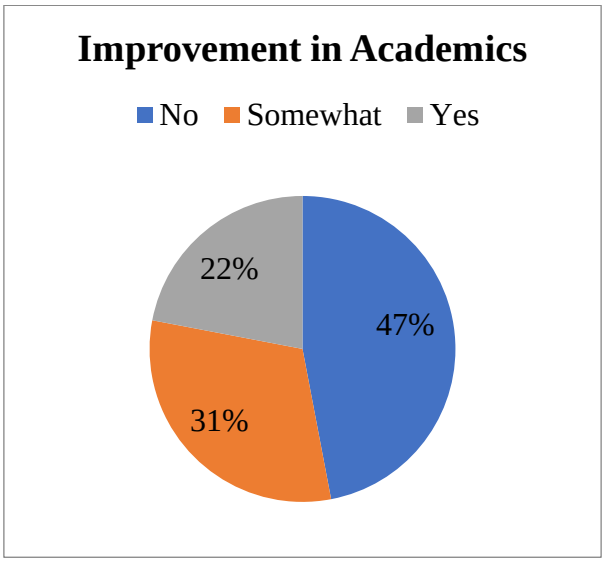
Figure: 8



With the data at hand, it is found that 31% of students feel frustrated "sometimes," whereas 26% feel this "often." This tells us that over half of the studentsare often seen to be troubled with some aspects of their studies, and this could come from different factors such as not understanding the material, high academic pressure, or learning disabilities. In contrast, 37% of the students represent those who are beset by frustration "rarely" meaning those who may incidentally face difficulties, but, in general, they have no problems with the academic requirements.

4.1.8. Academic frustration of the sample

Figure: 9

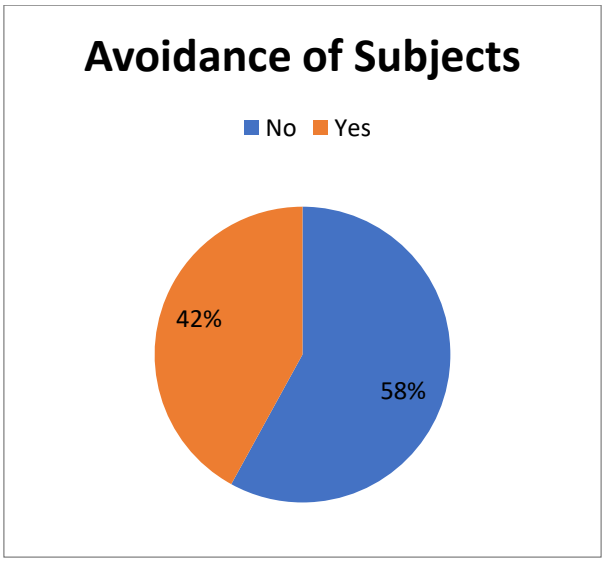


According to what is collected in the data, almost half of the students, representing 47%, stated that they observe no positive change in their academic grades. Clearly, the data gave us some with the news that about half of the students neither experienced nor expect to have a positive change in their performance despite the teacher's constant effort. However, it will be hard to rule out that some of them are capabilities issue.

Alternatively, 31% of the children answered "in a way," which hints that it is a slow and/or unsystematic process of progress.

4.1.9 . Subjects avoidance of the sampling

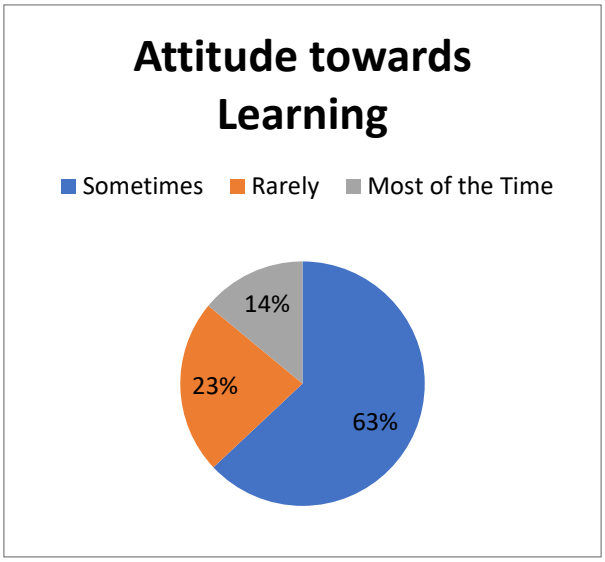
Figure: 10



The findings indicate that 42% of students exhibit avoidance behaviours of particular subjects, meaning that a sizeable part of the student population may not be disengaged and/or may be struggling with significant component areas of their program. The reason for the avoidance of specific subjects may differ from student to student and could be attributed to factors such as self-belief, perceived difficulty, previous experiences and/or the specific subject matter itself. Conversely, 58% of students stated they don't avoid subjects, relating to the majority of their study and engagement across curriculum areas.

4.1.10. Attitude towars learning of the sample

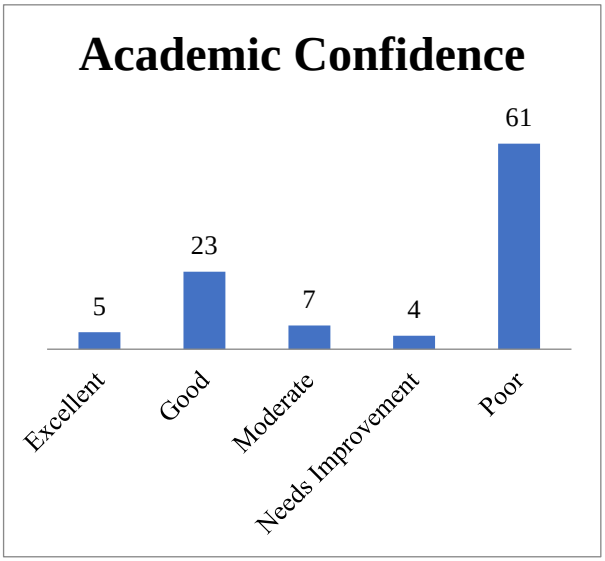
Figure: 11



The findings show that most of the students (63%) adopt an inconsistent attitude toward learning and learning engagement in their studies ("sometimes"). This indicates the students engaged may only do so on occasions that are variable and subject to context (area of study, nature of assessment, teaching styles of teacher and/or position). Only 14% of students said they were always engaged "most of the time", meaning a quite small group had a consistent positive attitude toward education

4.1.11. Academic confidence of the sampling

Figure: 12



The data indicates substantial evidence that most students (61%) rated their confidence in their academic ability as "poor," reflecting on the fact that many students did not have faith in themselves or a belief in their ability to perform academically. This lack of confidence can have a drastic influence on a student's likelihood to engage or take academic risks, and follow through with perseverance. In comparison, only 5 % of students reported "excellent" when referring to their academic ability, indicating very few students exhibit high self-trust regarding performance.

Table 4.2: Reading Score among the students under study

Reading Score	≤ 10	37	37%
	> 10	63	63%

Out of 100 students, 37% scored 10 or below, while 63% scored above 10, indicating that the majority performed relatively well. The scores range from 6 to 18, showing a wide variation in reading ability among the participants. The most frequently occurring scores are around 12 to 13, suggesting a central tendency toward moderate to good reading performance. This distribution implies that while a significant portion of students may need additional support, most demonstrate satisfactory reading skills.

4.1.12. Reading score of the sampling

Figure: 13

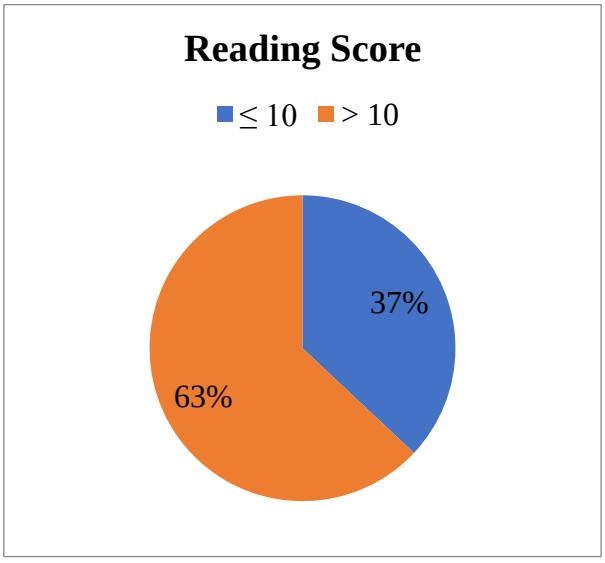


Table 4.3: Writing Score among the students under study

Writing Score	≤ 10	39	39%
	> 10	61	61%

Writing Scores: One of the important points to notice in the data on writing scores is that for every 100 students, 39% scored a 10 and below while 61% scored above a 10. This indicates a majority who are stronger writers. The writing score showed a range of 5 - 16 overall, which means students had varying scores and abilities. There is an obvious cluster of students scoring between 10 and 14, which demonstrates a statistical tendency highlighting a lot of writing at this level. Therefore, although some students will likely require writing assistance (those that scored ≤10), the overall data indicates a reasonable number of student writing performance.

4.1.13. Writing score of the sampling

Figure:14

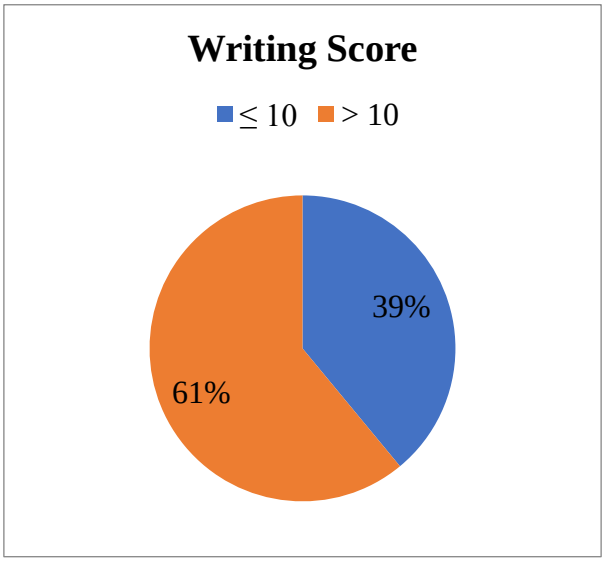


Table 4.4: Math Score among the students under study

Math Score	≤ 10	31	31%
	> 10	69	69%

Math Scores: The math scores reflected that 31% of students scored a 10 or below while 69% scored above a 10 in math, indicating that the majority of students demonstrated a reasonable level of performance in the study of math in our program. The math score ranged from 5 - 18, which, again, indicates significant variation in math ability among students in our program. There is clustering of scores mostly in the range between 11 and 15, suggesting that most students are at least moderately able to reasonably strong in math. The presence of low scoring students does indicate targeted support required in our program will be necessary for a subset of students. Overall, a relatively strong grasp of mathematics exists with the group overall.

4.1.14. Maths score of the sampling

Figure: 15

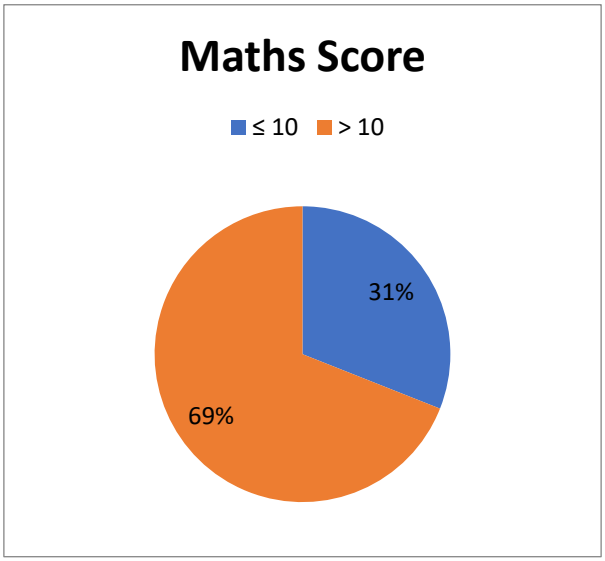


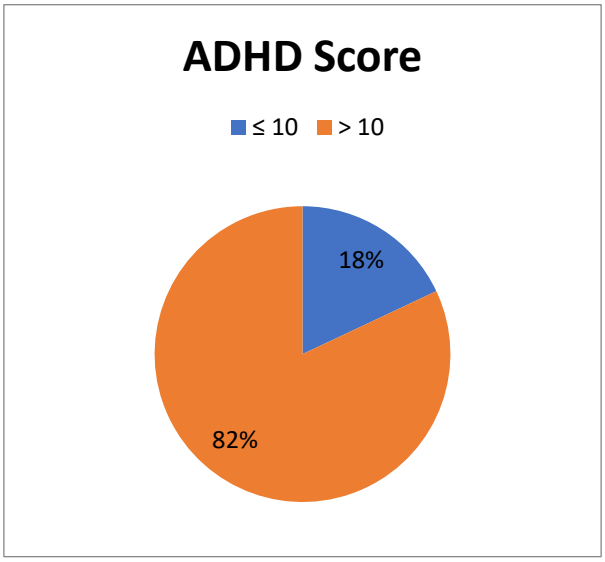
Table 4.5: ADHD Score among the students under study

ADHD Score	≤ 10	18	18%
	> 10	82	82%

Most of the students included in the ADHD scores showed elevated traits regarding ADHD with only 18% of students recording a score of 10 or below, with 82% of students recording a score of greater than 10. This means that a high proportion of the students are displaying characteristics related to ADHD. The scores are between 8 to 19 and while most of the students scored between 12 and 14 which demonstrates a certain tendencies with respect to the score. The data clearly demonstrate that, based on their scores, many students show characteristics associated with ADHD, and should probably be on one's radar for appropriate additional attention or screening for those who show especially high scores consistently.

4.1.15. ADHD score of the sampling

Figure: 16



4.2 To evaluate the sample with learning difficulties and grade them in the categories.

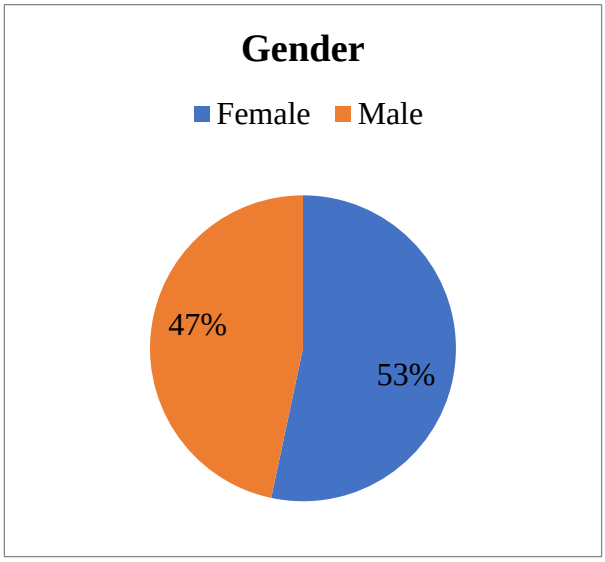
While the data are based on a sample of 30 students and that the gender distribution is near the 50% (53.3% female and 46.7% male) mark. Most of the students' grades were split amongst 5th grade (33.3%) and 6th and 7th (30%) grades, and one 4th-grade student, of note. The students come from a mix of schools where St. Joseph's has the biggest representation (23.3%), followed by St. Anne's (20%) and St. Peter's (20%). Students from the Government school are 10% of the sample, and students from OLF (16.7%) and St. George's (6.7%) are obviously much smaller representations in the sample. This variation suggests that students in the current study have a diverse educational background, predominantly from private schools, taken as a whole. The academic performance and learning styles of various students based on schooling could play a role in their overall learning experiences and academic performance asserting the necessity of pursuing comparisons amongst students' schooling and elevating a demand to look at overall similarities between students based on their grades in school as a future research agenda.

Table 4. 6: Frequency Distribution of Continous Variables

General Information	Categories	Frequency	Percentage (%)
Gender	Female	16	53.3
	Male	14	46.7
Grade	4	1	3.3
	5	10	33.3
	6	10	33.3
	7	9	30%
School	Govt School	3	10%
	OLF	5	16.7
	St Anne’s	6	20%
	St George	2	6.7
	St Joseph	7	23.3
	St Peter	6	20%
	Others	1	3.3

4.1.16. Gender of the sample

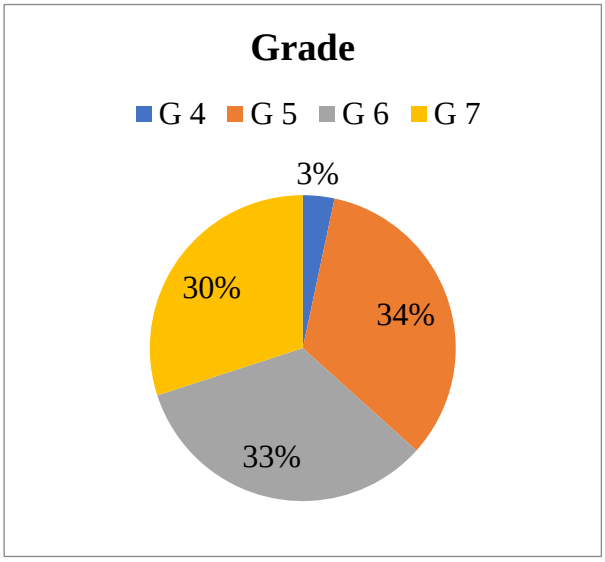
Figure: 17



The gender breakdown of the sample shows a higher number of female students: females are 53.3% of the sample while males comprise 46.7%. A near-equal gender breakdown suggests a reasonably balanced representation of females and males in the sample and facilitates adequate analysis of the two groups with respect to the findings.

4.1.17. Grade of the sample

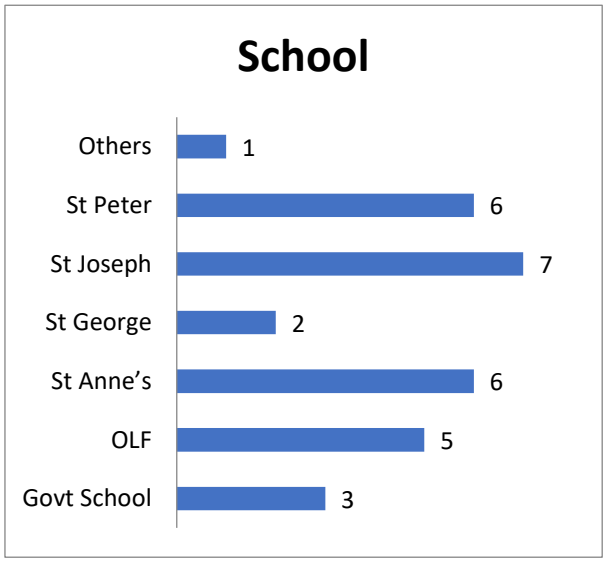
Figure: 18



The distribution of grades among students indicates that most students are from upper-primary, lower-secondary. The majority of students are from Grade 5 and Grade 6, with 34% and 33% making up the sample respectively; Grade 7 is, at 30%, nearly as representative. The amount of students in Grade 4, 3.3%, is the lowest, meaning Grade 4 had the least representation in the sample.

4.1.18. School of the sample

Figure: 19



The distribution of schools indicates that the majority of students were from St. Josephs and St. Annes. 23.3% of the sample was from St. Joseph's, and 20% from St. Anne's, so it could be inferred that the insights gained from this study provide a glimpse into the academic experiences, teaching strategies, and student outcomes at these schools.

4.3 To conduct an awareness section on learning difficulties for middle school children.

The data has tests scores before and after intervention for thirty students across six sections. The data establishes a significant difference in performance by students after intervention. In the pretest, section ranges were 8 to 15 with means between 11.43 and 13.23, with an overall mean of 75.20 (±3.156). In the posttest section means were 14.33 and 14.53 with an overall mean of 86.53 (±3.148). The lessened standard deviation in the posttests indicates an increased consistency in students performance. Therefore, the intervention was beneficial for learning and led to improved indicators of performance at posttest from all 6 sections.

Table 4.7: Descriptive Statistics for Continuous Variable

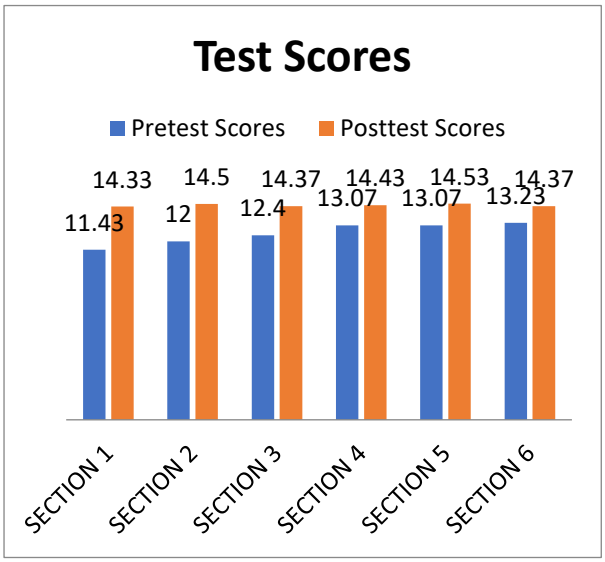
Variable	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Scores					
SECTION_1_Pretest	30	8	14	11.43	1.524
SECTION_2_Pretest	30	9	14	12.00	1.462
SECTION_3_Pretest	30	9	14	12.40	1.380
SECTION_4_Pretest	30	11	15	13.07	1.015
SECTION_5_Pretest	30	10	14	13.07	1.081
SECTION_6_Pretest	30	11	15	13.23	1.135
Total Pretest Score	30	65	81	75.20	3.156
Posttest Scores					
SECTION_1_Posttest	30	13	15	14.33	0.844
SECTION_2_Posttest	30	12	15	14.50	0.861
SECTION_3_Posttest	30	12	15	14.37	0.964
SECTION_4_Posttest	30	12	15	14.43	0.817
SECTION_5_Posttest	30	13	15	14.53	0.730
SECTION_6_Posttest	30	12	15	14.37	0.809

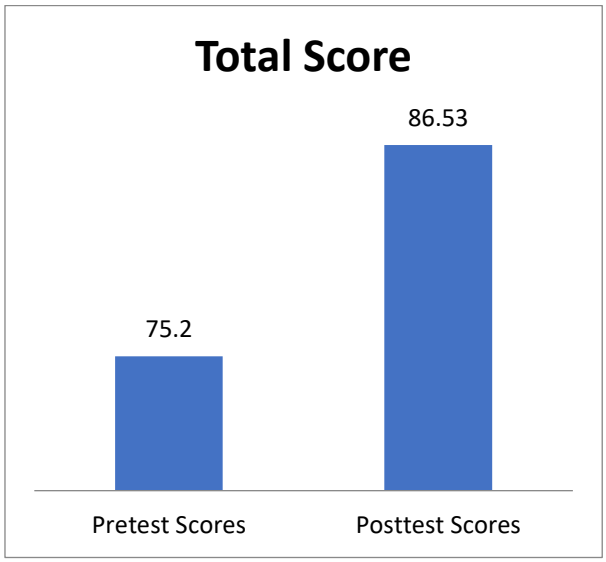
Total Posttest Score	30	81	90	86.53	3.148

Pretest vs. Post test Scores:

4.1.19. Pretest and Post test Scores of the sample

Figure: 20.





The data indicates an increase in student performance post-intervention. The overall mean pretest was 75.20 as compared to the posttest mean of 86.53. The difference implies an overall significant change in students' academic abilities. There was a change due to the intervention as students' heightened academic experience

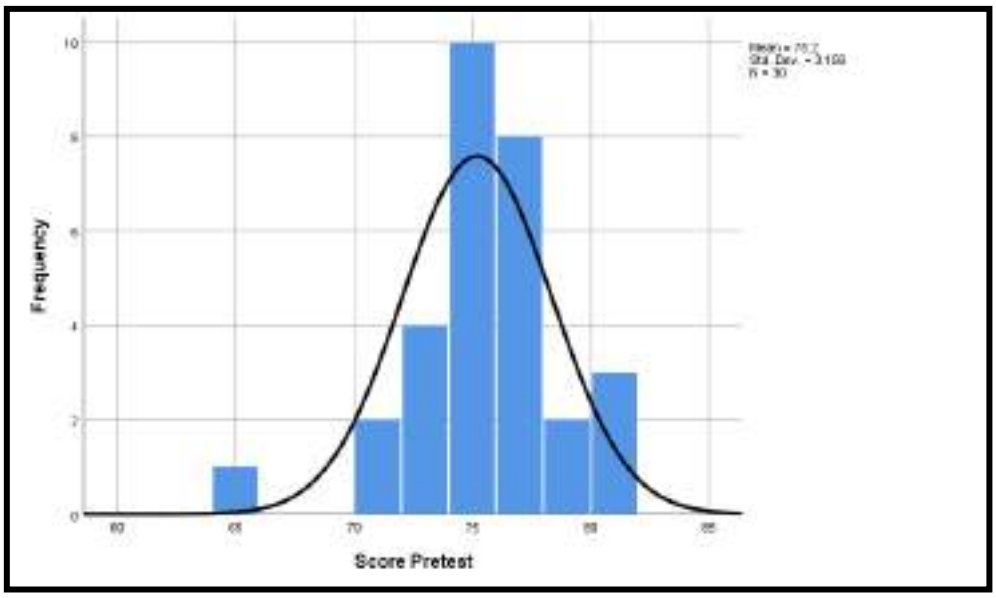
provided for improvement on the posttest. Additionally, the standard deviation of the posttest means demonstrated decreased variation meaningable less variability across student performance as a result of the intervention. Overall, with the decreased variability in performance, the use of the intervention possibly afforded students the academic equivalent of developing a uniform performance or at least more similar learning outcomes across the students.

- Normality Test

Test	Score Pretest	Score Posttest
Kolmogorov-Smirnov (KS) Statistic	0.175	0.183
KS Test Significance (p-value)	0.020	0.011
Shapiro-Wilk (SW) Statistic	0.923	0.865
SW Test Significance (p-value)	0.032	0.001

Table 4. 8: Normality Test Results for Pretest and Posttest Scores

Figure: 21



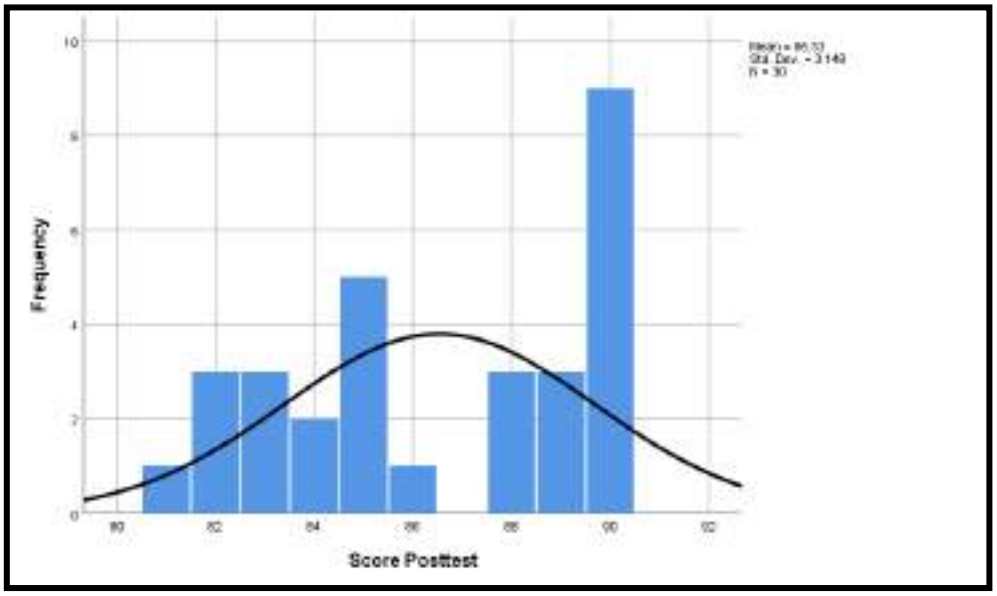
The normality tests verify whether the pre and post assessments followed a normal (bell-shaped) distribution.

• Both tests (KS and SW) resulted in very small p-values < 0.05

• This indicates that the scores do not follow a perfect normal distribution.

• Given that the data is not normally distributed, we need to apply appropriate statistical procedures for analysis that do not assume normality.

Figure: 22



4.4 To analyse the improvement in awareness of learning difficulties through comparing results of pre survey and post survey.

- Comparitive Analysis: Pre test score and post test score

The data shows a notable student performance increase from the pre to the post assessment. The pre assessment mean was 75.20 (±3.156) with a range of scores from 65 - 81. The post assessment mean score increased to 86.53 (±3.148) with scores ranging from 81-90. The median score improved from 75.00 to 87.00 (increase of 12) from the pre to the post assessment, which suggests that all students improved their performance. Overall, the distribution has moved the 25th and 75th percentile up, indicating the overall group achieved more consistently higher performance than at pre assessment. The above suggests that the intervention has had a positive impact on student learning.

Table 4.9: Descriptive Statistics Summary Scores

Variable	N	Mean	Std. Deviation	Min	Max	25th Percentile	Median (50th)	75th Percentile
Score Pretest	30	75.20	3.156	65	81	73.75	75.00	77.00
Score Posttest	30	86.53	3.148	81	90	83.75	87.00	90.00

Table 4.10: Wilcoxon Signed-Rank Test Results

Ranks	N	Mean Rank	Sum of Ranks
Negative Ranks (Posttest < Pretest)	0	0.00	0.00
Positive Ranks (Posttest > Pretest)	30	15.50	465.00
Ties (Posttest = Pretest)	0	-	-

The results offer substantial evidence of the intervention's effectiveness, as all 30 students improved their scores, and all students completed the post-test with higher scores than the corresponding pre-test. In cases of standardized testing (i.e., ACT, SAT), there are commonly cases of students scoring the same or lower, this was not the case here. This means that every student was positively impacted by the intervention, and they were all positively impacted in a consistent manner (each scored higher). In addition, there were no cases of students having a similar level of performance or getting worse, stressing the positive impact of the teaching strategy or support strategy applied over the intervention period.

Table 4. 11: Test Statistics & Significance

Statistic	Value
Z-score	-4.787
Asymp. Sig. (2-tailed)	0.000
Exact Sig. (2-tailed)	0.000
Exact Sig. (1-tailed)	0.000

More evidence lies within the statistical analysis, which demonstrated that the assistance given in continued learning not only had a positive impact on their respective score expectancies prior to the intervention period, but the improvements were robust in terms of being statistically valid. Considering the very small p-value (0.000), one can conclude the probability of obtaining such findings is virtually non-existent, therefore the change, in terms of the improvement in scores, is statisitically valid and accepted as being significant. Similarly, the Z-value (-4.787) points to a strong difference in performance of pre-test and post-test scores. Further, the positive ranks were large, which reflected that all students improved. There were no cases of lower scores or a score that stayed the same. This performance equally improved, for all students shows that the intervention worked by improving their respective academic outcomes.

- **Calculating Effect Size (Cohen's d)**

Cohen's dd is a measure of effect size that helps understand the practical significance of the difference between two groups. Since we are using the **Wilcoxon Signed-Rank Test**, we can approximate Cohen's dd using the formula:

$$d = \frac{mean\ difference}{std\ deviation\ of\ differences} = \frac{86.53 - 75.2}{\sqrt{\frac{3.156^2 + 3.148^2}{2}}} = \frac{11.33}{3.152} = 3.59$$

- **Interpretation of Cohen's d**

- **d = 0.2** → Small effect
- **d = 0.5** → Medium effect
- **d = 0.8** → Large effect
- **d = 3.59** → **Extremely large effect**

Since **Cohen's d = 3.59**, this indicates a **very large effect size**, meaning the intervention had a **strong and significant impact** on improving scores.

- Subgroup Analysis using ANOVA results for both genders:

Table 4.12: ANOVA Results for Female Students

Dependent Variable	Source	Sum of Squares	df	Mean Square	F	Sig.
Score Pretest	Between Groups	13.049	3	4.350	1.113	.382

	Within Groups	46.889	12	3.907		
	Total	59.938	15			
Score Posttest	Between Groups	32.728	3	10.909	1.064	.401
	Within Groups	123.022	12	10.252		
	Total	155.750	15			

The ANOVA findings for female students indicated no statistically significant difference of academic performance in female students among the sampling groups prior to and post intervention. For the pretest scores, the F-value and significance (p-value or Sig.) was 1.113 of 0.382. The significance p-value is much larger than the common significance value of 0.05, indicating the groups did not significantly differ in pretest performance. Likewise, for the posttest scores, the F-value was 1.064 with a significance p-value of 0.401, indicating there was no significant difference between groups for posttest scores after the intervention. Overall, although the intervention may have worked for some female students, these results suggest that the level of improvement in scores for female students was similar across the four groups, and none of the groups significantly outperformed the others.

Table 4.13: ANOVA Results for Male Students

Dependent Variable	Source	Sum of Squares	df	Mean Square	F	Sig.
Score Pretest	Between Groups	2.229	2	1.114	0.058	.944
	Within Groups	212.700	11	19.336		
	Total	214.929	13			
Score Posttest	Between Groups	25.182	2	12.591	1.311	.309
	Within Groups	105.675	11	9.607		
	Total	130.857	13			

The ANOVA results for male students indicate there were no statistically significant differences in academic performance between groups both pre-and post-intervention. For the pretest scores, the F-value was very low (0.058) and p-value (0.944) indicates the differences in scores between groups were very minimal and not statistically significant. The same was true for posttest scores with an F-value of 1.311 and a p-value of 0.309 (both of which exceed the threshold of 0.05 for significance). The results suggest while there may have been overall improvements due to the intervention, no one

group of male students performed significantly better than other male students, or worse than other male students. The academic progress of male students appears comparably uniform all across the different groups.

- ANOVA empirically determines if students across different grade levels score differently.
- For females and males, all the p-values were greater than 0.05 meaning that grades did not significantly differ in scores.
- In conclusion, the grade level did not have any impact on test scores for either female or male

4.5 To examine the relationship between gender, grade school and pretest scores, posttest scores of learning difficulties of middle school children.

Figure: 23

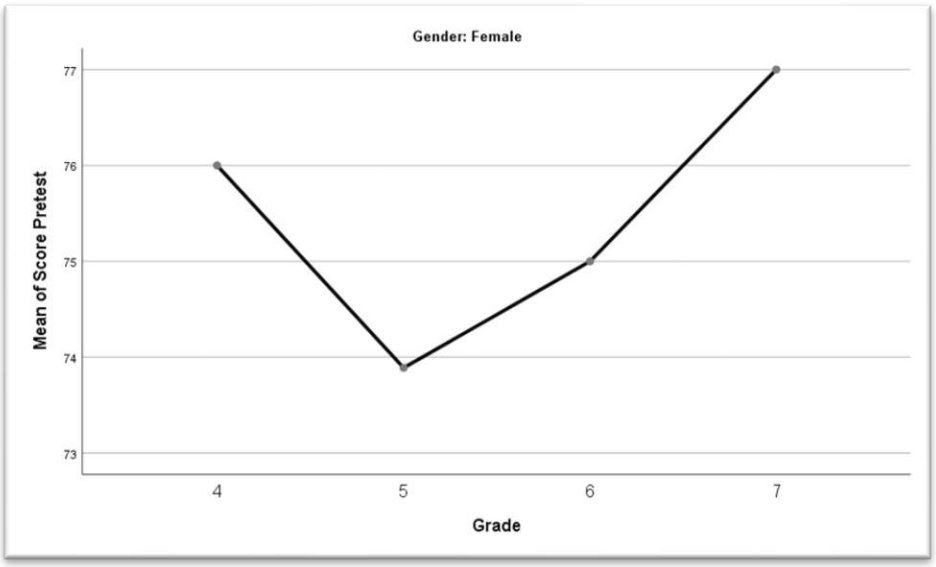
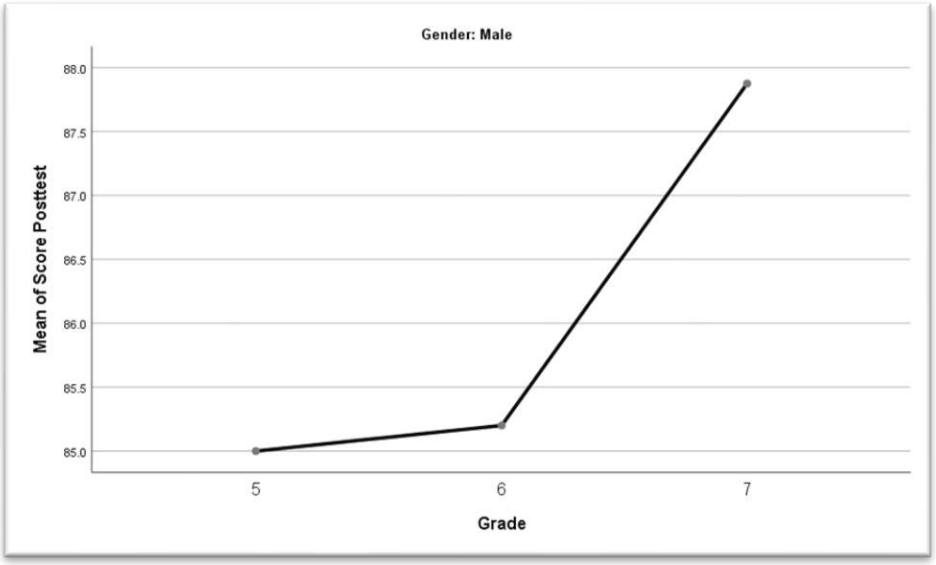
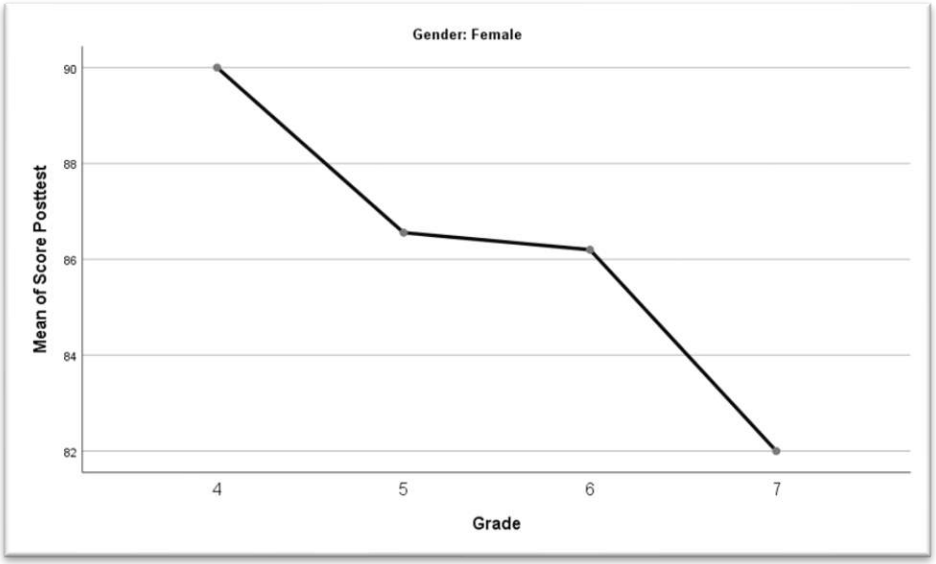


Figure: 24





Note: It's important that if the lines for both pretest and posttest scores are relatively flat, then it could be interpreted that there was minimal difference in scores. If the lines trend upward as grade increases then higher scores tended toward higher grade levels. If the lines trend down then higher score tended to lower grades. If there was a significant spike or drop in scores for a specific grade then this could be caused by anomalous data, or more interestingly, conditions unique to that grade level.

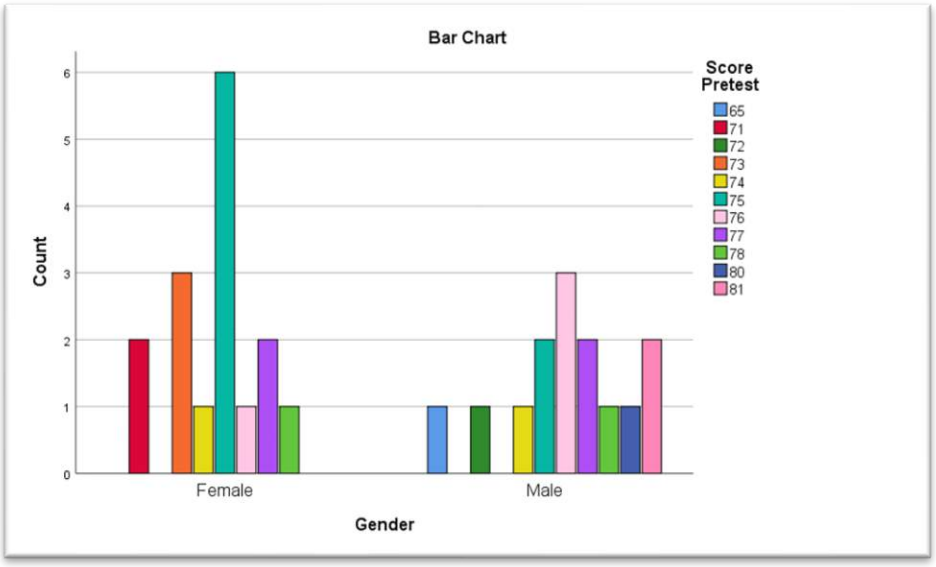
- Chi Square Test

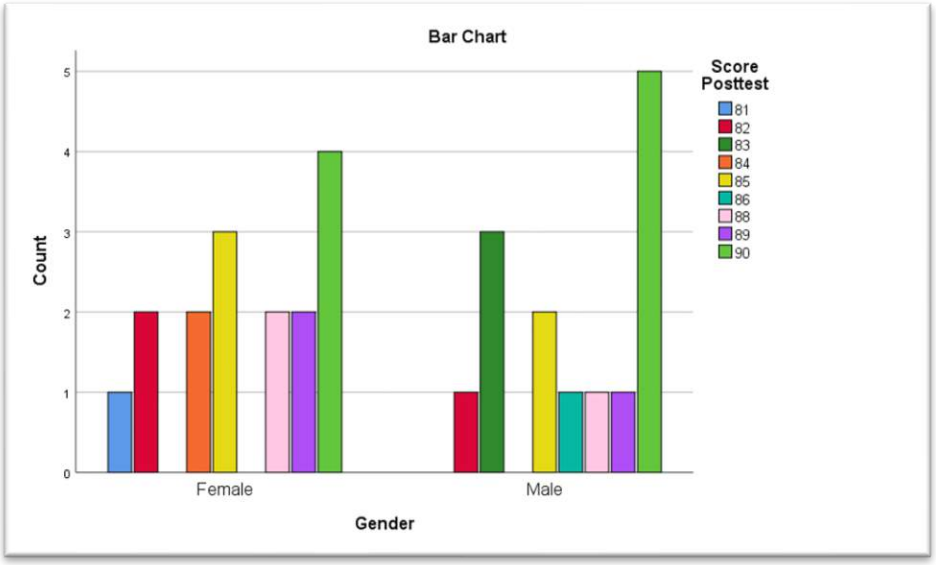
Table 4.14: Chi-Square test results table:

Variable 1	Variable 2	Chi-Square	df	p-value
Gender	Pretest	0.0000	1	1.0000
Gender	Posttest	0.0000	1	1.0000
Grade	Pretest	2.3111	2	0.3149
Grade	Posttest	2.3111	2	0.3149
School	Pretest	2.1333	1	0.1441
School	Posttest	0.0000	1	1.0000

The p-values signify there is a statistically significant relationship association between the two variables. We reject the hypothesis of independence if $p < 0.05$. In this example, all p-values were above 0.05 indicating there were no significant relationships between the pairs we tested.

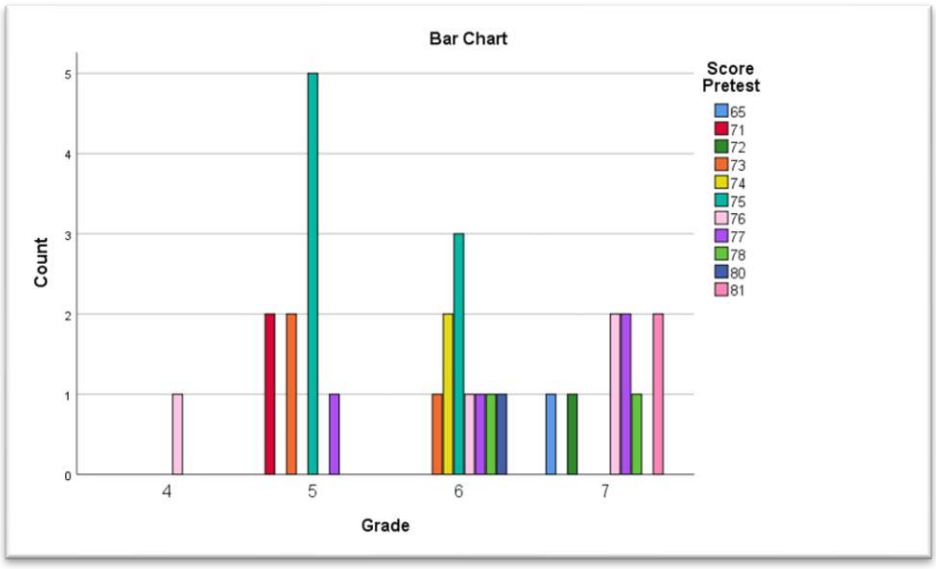
Figure: 25





Post test scores for male students improved as grades increased. Conversely, female students had generally higher pretest measures in lower grade levels, but posttest measures showed overall decline. The trends seems to indicate that male gender students benefited more from collaborative intervention when transitioning to increased grade levels, where female students displayed a decline in posttest measures over the same time allotment.

Figure: 26



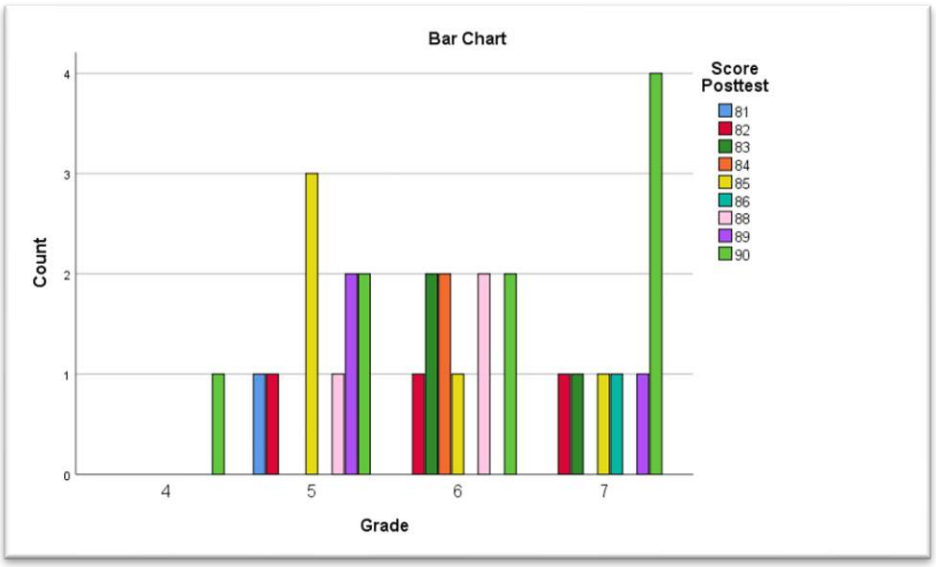
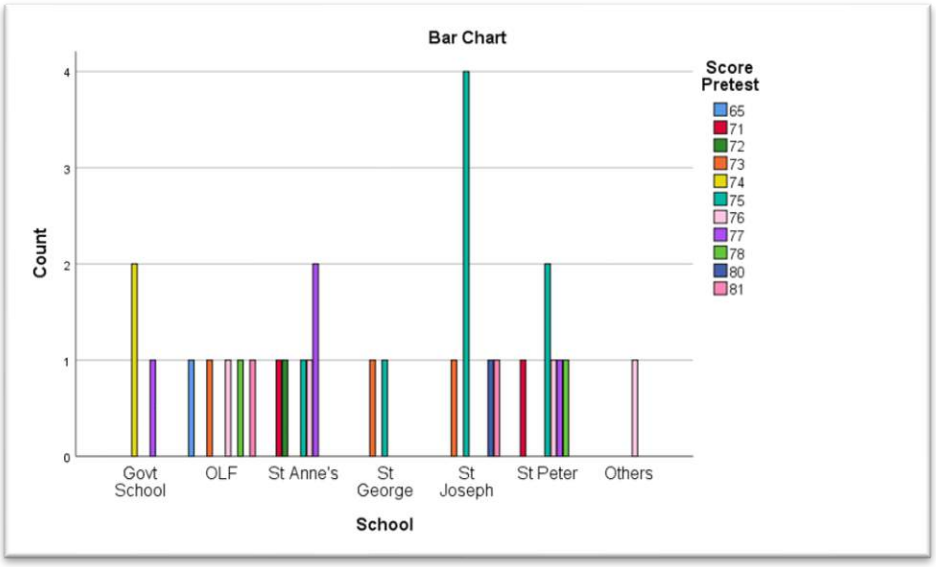
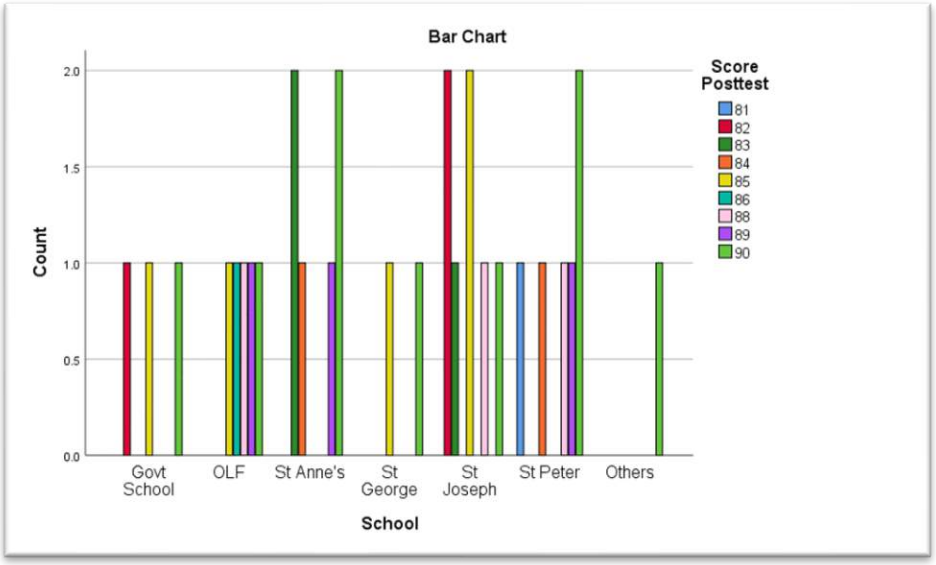

Bar Chart
Score Posttest
81
82
83
84
85
86
88
89
90
Count
0
1
2
3
4
4
5
6
7
Grade

Figure: 27


Bar Chart
Score Pretest
65
71
72
73
74
75
76
77
78
80
81
Count
0
1
2
3
4
Govt School
OLF
St Anne's
St George
St Joseph
St Peter
Others
School

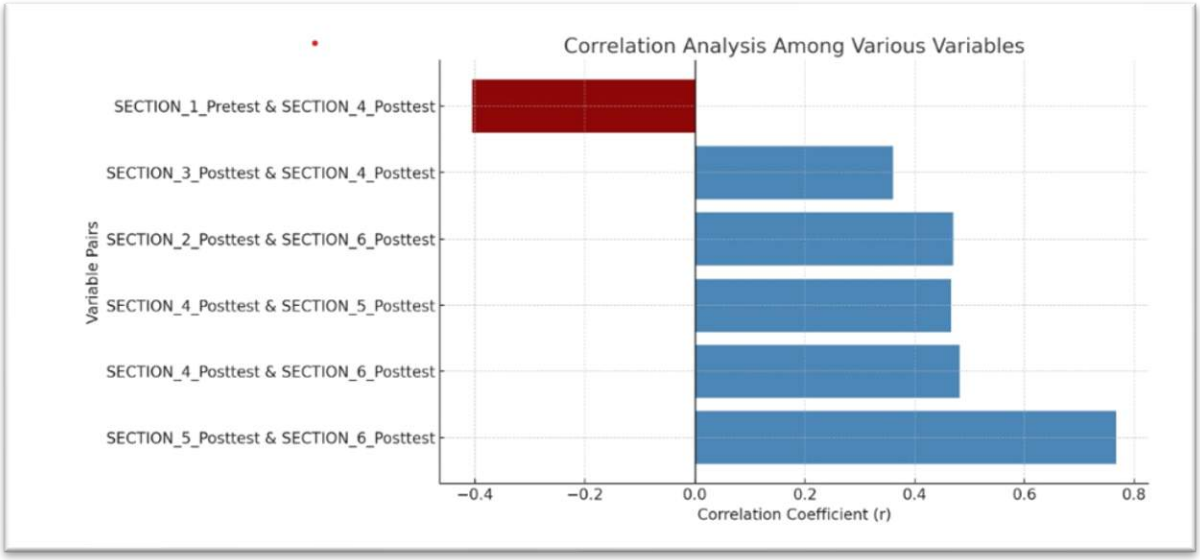


- Correlation Analysis

Table 4.15: correlation analysis

Variables	Correlation Coefficient (r)	Significance (p-value)	Strength
SECTION_5_Posttest & SECTION_6_Posttest	0.767	$p < 0.01$	Very Strong
SECTION_4_Posttest & SECTION_6_Posttest	0.482	$p < 0.01$	Strong
SECTION_4_Posttest & SECTION_5_Posttest	0.466	$p < 0.01$	Strong
SECTION_2_Posttest & SECTION_6_Posttest	0.470	$p < 0.01$	Strong
SECTION_3_Posttest & SECTION_4_Posttest	0.360	$p < 0.05$	Moderate
SECTION_1_Pretest & SECTION_4_Posttest	-0.405	$p < 0.05$	Moderate (Negative)

Figure: 28



The correlation analysis identified salient patterns to student performance across sections of the test. Generally speaking, there were positive correlations within posttest sections indicating that students who performed well in one section also tended to do well in the other sections. This may indicate that students maintained a consistent level of understanding or skill across the evaluated areas after the administrative collaborative intervention. The strongest relationship between sections is seen between SECTION_5 and SECTION_6 indicating closeness in student response regarding their performance in the two different sections. Correlations are categorized by level of strength, where above .70 are considered very strong, .40 to .70 as strong, and .30 to .40 as moderate. Interestingly, SECTION_1_Pretest and SECTION_4_Posttest has a negative correlation, suggesting an inverse relationship, meaning students who were successful in SECTION_1 did not maintain that level in SECTION_4 of the posttest. This shift could denote a difference in area of learning focus, issue of content relative difficulty level being reduced, or individual student over time.

- Regression Analysis

Table 4.16: Summary of Regression Analysis

Statistic	Value
R (Correlation Coefficient)	0.118 (Weak Correlation)
R^2 (Coefficient of Determination)	0.014 (1.4% variance explained)

Adjusted R^2	-0.192 (Negative, poor model fit)
Std. Error of Estimate	3.437

Table 4.17: ANOVA (Model Fit Test)

Source	Sum of Squares	Df	Mean Square	F	Sig. (p-value)
Regression	3.995	5	0.799	0.068	0.996 (Not Significant)
Residual	283.471	24	11.811		
Total	287.467	29			

R (0.118): Weak correlation between the independent variables and the post-test scores. R^2 (0.014): The independent variables explain only 1.4% of the variance in post-test scores, reflecting poor model explanatory power. Adjusted R^2 (-0.192): A negative value that reinforces the notion that the model fits the data poorly. p-value (0.996) from ANOVA: The model is not significant, or the independent variables do not predict post-test scores in combination.

Table 4.18: Regression Coefficients

Variable	B (Unstandardized Coeff.)	Std. Error	Beta (Standardized Coeff.)	t	Sig. (p-value)
Constant	90.984	25.002	-	3.639	**0.001 (Significant)**
Score Pretest	0.060	0.216	0.060	0.278	0.784 (Not Significant)
School	-0.066	0.454	-0.038	-0.146	0.885 (Not Significant)
Grade	1.311	3.946	0.368	0.332	0.743 (Not Significant)
Age	-1.518	3.787	-0.437	-0.401	0.692 (Not Significant)
Gender	0.355	1.718	0.057	0.206	0.838 (Not Significant)

Constant (90.984, p = 0.001): This was the only significant coefficient and it merely tells us the value at which scores begin, and does not shed any light on the relationship between variables. Score Pretest (B = 0.060, p = 0.784): The students' pretest scores did not have any significant effect on the students' post-test scores. School, Grade, Age, and Gender: Each predictor had p-values larger than p = 0.05 thus none of these variables are statistically significant to predict post-test scores. Predicted values had very little variation (Std. Dev. = 0.371) therefore the model predicts quite similar predicted scores for all students. The model has a relatively high residual standard deviation (3.126) therefore there are high prediction errors meaning actual scores are quite different from predicted scores.

Table : 4.19 Residual staistics

Statistic	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	85.00	87.02	86.53	0.371	30
Residual	-5.214	3.587	0.000	3.126	30
Standardized Residual	-1.517	1.044	0.000	0.910	30

DISCUSSION

The purpose of the study was to identify the prevalence of learning difficulties in children in Kumbalangi Panchayat by taking a sample of 100 children and completing a comprehensive pre-survey on 30 children from the sample that displayed significant difficulties in academic achievement. The information from the pre-survey was analysed, using SPSS, which uncovered revealing data regarding learning difficulties. Results showed that 46% of children had identified challenges with learning difficulties, and difficulty was shown with reading, writing and maths. The results show that while many children achieved a score above 10 for academic achievement, a portion of the children displayed difficulties learning with 39% scoring ≤10 in writing and 37% scoring ≤10 in reading. Of the children, ADHD was the highest area of concern, with 82%, of children displaying concerning high scores on ADHD, indicating that ADHD was an area of concern and

focused attention was needed that may contribute to the children's academic performance. Academic frustration was the next highest area of concern reported as experiencing frequent academic frustration was reported by 26% of children, and occasionally experiencing academic frustration was reported by 31% of children. 47% of children reported not improving in academic performance, and 42% were avoiding subjects, indicating a lack of self-worth and lack of motivation. 61% of children labelled themselves poorly in their ability to succeed at their own academic confidence describing the most typical level of capability or consciousness describing as not fitting for being able to improve academic performance in school and as honestly not fit for value in having continued schooling. Children had self-reported significant wooden barriers in addressing their learning difficulties and appropriate and individual solutions like having a preferred teaching method or an awareness program or programmes intended and aiming to support them in overcoming their learning challenges.

The study continued with selecting 30 students from the initial 100 identified as academically weak based on their pretest scores. These students went through an intervention program to improve their learning outcomes. The students were assessed during the intervention program - they were given pretest and posttest scores to assess their performance. The demographic analysis revealed that the 30 students had almost a gender balance, with 53.3% female and 46.7% male. Most of the students were from grades 5 (33.3%), 6 (33.3%) and 7 (30%), with one of the students from grade 4. The school representative was St. Joseph's (23.3%) and St. Anne's (20%) and St. Peter's (20%). Government school students accounted for a mere 10% of the sample. The sample was significant in diversity and called for analysis of learning experiences when compared across types of schools.

The statistical analysis of pretest and posttest scores illustrated statistically significant improvements in performance of the targeted student group. Pretest section scores were from 8 to 15 with mean section scores ranging from 11.43 to 13.23, while the total pretest score had an average of 75.20 (±3.156). The section scores were better on the posttest with mean section scores ranging from 14.33 to 14.53 and total posttest score averaging 86.53 (±3.148). The standard deviation was less for posttest scores indicating a more consistent distribution or performance of students after the intervention which was indicative of viable impact of an

effective intervention. The normality tests indicated that the pretest and posttest scores did not fit a normal distribution ($p < 0.05$ for both KS and SW tests) suggesting that non-parametric statistical analysis methods should be utilized when analysing the data.

Through further statistical examination we were able to analyse students' progress comprehensively. Using the Wilcoxon Signed-Rank Test we found that there were significant improvements amongst the students as all 30 students made positive progress, where there were no negative or unchanged scores. With a p-value of 0.000 we determined positive changes had occurred occur. Also, the Z-score of -4.787 is also relatively large proof of the difference between pretest and post test scores. The ANOVA test results we had calculated showed no significant differences across grade levels in the male test scores and females test scores. The p-values were all greater than 0.05 therefore showed the same effectiveness across all grade levels once again exemplifies the positive when using a structured teaching style, for all academic levels. However, we were able to create graphs representing the performances of both males and females and see the difference learning trend for each. Male students made improvements in their post test scores as they progressed from grade to grade. However, female students had less improvements or even declines in post test scores even though their pretest scores were above average in the lower grades. This suggests that males would have benefited more from the intervention as they progressed through each grade and that female students during the time or other factors such as motivating, pressure, or psychological reasons caused the declined performance on the post test scores.

However, the correlation analyses reported the findings, showing many strong positive correlations ($r > 0.7$ and $r > 0.4$) reflecting that improvements in one section were associated with improvements in other areas. For example, a negative correlation (-0.405) was between SECTION_1_Pretest/CLOSEST_PEER_SESSION and SECTION_4_Posttest/EXTRA_PEER_SESSION which suggests potential changes in the student performance pattern and deserves further investigation. The regression analysis aimed to test the assumption that specific independent variables (pretest scores, school type, grade, age, gender) influenced the dependent variable (Posttest scores). The regression model was weak (R^2=2.12%) with a p-value approaching 0.996, indicating that none of these factors were significantly related to differences in students' post test performance. There was high residual errors, indicating that perhaps other unmeasured variables (study habits, the

environment of learning, motivation, and parental involvement) need to be accounted for and are critical to students' success.

The project's ultimate conclusion is that the intervention was very successful in improving student achievement, given the much-stronger post test scores and the large effect size. The absence of any significant difference for grade, or demographic variables such as age or gender, implies that the structured teaching strategies (not how old or young you are or what your gender is) influenced improvement in student achievement more than student attributes. Future research should explore behavioural, psychological, and environmental factors influencing academic performance, because this research's regression model was not able to explain enough of the variance for post test performance. Future research could also be a mix of qualitative into future studies could provide deeper insights into the underlying influences on student learning.

The findings of this study reveal that personalized learning approaches to student need are more effective than generalizing based on demographic data. Research shows that personalized strategies are the most educationally effective pedagogical methods and help significantly improve student learning in today's schools with many student cohorts and diverse needs. The findings of this study support the development of pedagogies that link evidence-based practice and improve student engagement and success. The current study must be the beginning of a future research agenda that explores the impact of variables external to schooling on the performance of students, since many of these variables, such as home context and study habits, may well be having an unintended significant influence on academic performance. In sum, while the study presents compelling evidence that the educational intervention succeeded in improving student pre-intervention performance to post-intervention standards of subject competence, it has also presented key future research questions that will help explore some of the underlying influences that also shape academic performance. By combining informed pedagogical and holistic educational practices that are personalized to student needs, and with a recognition of external influences, it is the author's hope that schools will foster a more supportive and inclusive learning environment that helps raise student engagement and continual improvements in students' educational attainment levels. In addition, schools should also work on and implement intervention programs that support student-specific requirements for students with need or who may display learning difficulties or

challenges. By designing structures of individualized strategies, adapting curriculum structures to best suit students, and implementing feedback systems, the education sector can find additional support structures for students in need of academic and psychological support to progress more successfully in their studies.

In summary, the research discussed offers insight into the importance of early detection and intervention with learning difficulties in children in Kumbalangi Panchayat. The success of the intervention program suggests that students academically struggling are able to respond and their potential can be developed with the right intervention. Future research should focus on evaluating candidates who have gone through the intervention program and evaluating the findings longitudinally. Inaddition ,other factors that influence student performance should also be examined. It is important that sufficient training for teachers in pedagogical practices for students with learning difficulties is made available, and further consideration should be given to the promotion of facilities, policies and services of learning support for students in such exceptional circumstances of learning difficulty, so as to ensure academic progress and growth, and to develop a culture of learning and development for all students for whom learning difficulties are an issue.

CHAPTER-5

SUMMARY AND CONCLUSION

This chapter presents the analysis and interpretation of data collected for the study entitled "Assessment of Learning difficulty among middle school children in Kumbalangi panchayat". The aim was to assess the perceived middle school children among 8 to 13 years of age, to explore the common causes and learning difficulties, and assessing these. The data was collected through a structured questionnaire and analysed using descriptive statistics including frequencies, percentages, and graphical representations. The results are discussed under specific headings to provide a clear understanding of the trends and patterns observed in the study.

Findings

The findings of the study can be summarized as follows:

5.1 Distribution based on general information of the sample

The survey data provides important information about the learning profile of middle school students in the Kumbalangi Panchayat. The sample reported slightly more boys (54%) than girls (46%). Most of the participants fell within the age group of 10-12 years, and were mostly studying in grades 5 to 7. The children came from differing educational backgrounds; with the most students from St. Peter's (29%), followed by OLF (19%), and St. Joseph's (15%). Findings indicate almost half (46%) of children report to have learning difficulties, occurring mostly with speaking/reading (18%) and writing (14%). Students who report retirement from the academic friendliness of course content are not uncommon; indicating to be academically frustrated sometimes (31%) or often (26%). Of note, 50% of students indicated no improvements in regard to academics, and 42% of students indicated that they often avoid particular subject areas, when possible. In terms of academic learning attitude (interest), 63% of students reported mixed feelings toward their learning activities,

and 61% of students report low confidence levels academically. The findings from this data suggest there is a need for early intervention, and suggested support strategies to assist with academic learning.

5.1.1. Gender of the sample

The distribution of gender in the sample of 100 children reveals that boys are a little more than girls. In numbers, in particular, 54% of the participants are boys, and 46% are girls. It shows a balanced distribution but with less male predominance

5.1.2. Age of the sample

The 100 children in this research had ages ranging from 7 to 13 years old, but the vast majority (which numerically translates to 84 children) were in the 10 to 12 age range: 32 were 11, 27 were 12, and 25 were 10. This suggests that the research aligns well with middle school children, since developmentally this is an influential time for school performance and cognitive development. Very few of the participants belonged to the younger (ages 7–9) and older (age 13) age categories. Thus, the primary focus of this study is on children who are developmentally, educationally and identifiably most likely to show signs of early learning difficulties.

5.1.3. Grade of the sample

The distribution of grades among the 100 children in the sample gives us students who are concentrated in the middle school levels. A big majority of participants are occupied by Grade 6 (29 students) along with Grade 5 (28 students) and Grade 7 (26 students) which make up the sum of three grades. This seriously, shows that most of the students are in grades that are in the middle and this confirms that the study is particularly focusing on students with a lot of academic and learning problems at this stage of their academic life. Some of the sides of the grade spectrum show smaller numbers of students with a minimum of 1 student in Grade 2, 5 each in Grades 3 and 8, and 6 in Grade 4.

5.1.4. School of the sample

The data organized by school of the sample of 100 children illustrates a wide representation across various educational institutions. The largest segment of the students that is 29 children is from St. Peter School. OLF

School follows behind this with 19 students and St. Joseph School with 15 students. St. Anne's School provides 14 students and Government Schools 11. The other two categories are the least represented, with only 5 students, St. George School, and 7 students, others category.

5.1.5 Learning issues of the sample

In a 100student sample, it is now found that 46% of them already have an identified learning disability (ies), while 54% are showing no problems with their learning. This clearly explains that 50% of students have already been found to be having various issues which may affect them in their academic performance, social development, or even cognitive growth.

5.1.6. Types of learning issues of the sample

Almost half of the students (approximately 46%) are exposed to learning disabilities which is a serious problem within the student population. Among these, the most common difficulties refer to speaking and reading that have affected 18% of the students. Amongst the key factors, there might be such things as speech delay, dyslexia, or comprehension problems, which would decrease the students' ability to communicate and receive written information. Writing problems are also considered as general ones because they affect 14% of students.

5.1.7. Academic frustration of the sample

With the data at hand, it is found that 31% of students feel frustrated "sometimes," whereas 26% feel this "often." This tells us that over half of the students are often seen to be troubled with some aspects of their studies, and this could come from different factors such as not understanding the material, high academic pressure, or learning disabilities. In contrast, 37% of the students represent those who are beset by frustration "rarely" meaning those who may incidentally face difficulties, but, in general, they have no problems with the academic requirements.

5.1.8. Academic Improvement of the sample

According to what is collected in the data, almost half of the students, representing 47%, stated that they observe no positive change in their academic grades. Clearly, the data gave us some with the news that about

half of the students neither experienced nor expect to have a positive change in their performance despite the teacher's constant effort. However, it will be hard to rule out that some of them are capabilities issue. Alternatively, 31% of the children answered "in a way," which hints that it is a slow and/or unsystematic process of progress.

5.1.9. Avoidance of subject of the sample

The findings indicate that 42% of students exhibit avoidance behaviours of particular subjects, meaning that a sizeable part of the student population may not be disengaged and/or may be struggling with significant component areas of their program. The reason for the avoidance of specific subjects may differ from student to student and could be attributed to factors such as self-belief, perceived difficulty, previous experiences and/or the specific subject matter itself. Conversely, 58% of students stated they don't avoid subjects, relating to the majority of their study and engagement across curriculum areas.

5.1.10. Attitude towards learning of the sample

The findings show that most of the students (63%) adopt an inconsistent attitude toward learning and learning engagement in their studies ("sometimes"). This indicates the students engaged may only do so on occasions that are variable and subject to context (area of study, nature of assessment, teaching styles of teacher and/or position). Only 14% of students said they were always engaged "most of the time", meaning a quite small group had a consistent positive attitude toward education.

5.1.11. Academic confidence of the sample

The data indicates substantial evidence that most students (61%) rated their confidence in their academic ability as "poor," reflecting on the fact that many students did not have faith in themselves or a belief in their ability to perform academically. This lack of confidence can have a drastic influence on a student’s likelihood to engage or take academic risks, and follow through with perseverance. In comparison, only 5 % of students reported "excellent" when referring to their academic ability, indicating very few students exhibit high self-trust regarding performance.

5.2: Reading Score among the students under study

Out of 100 students, 37% scored 10 or below, while 63% scored above 10, indicating that the majority performed relatively well. The scores range from 6 to 18, showing a wide variation in reading ability among the participants. The most frequently occurring scores are around 12 to 13, suggesting a central tendency toward moderate to good reading performance. This distribution implies that while a significant portion of students may need additional support, most demonstrate satisfactory reading skills.

5.3: Reading Score among the students under study

Writing Scores: One of the important points to notice in the data on writing scores is that for every 100 students, 39% scored a 10 and below while 61% scored above a 10. This indicates a majority who are stronger writers. The writing score showed a range of 5 - 16 overall, which means students had varying scores and abilities. There is an obvious cluster of students scoring between 10 and 14, which demonstrates a statistical tendency highlighting a lot of writing at this level. Therefore, although some students will likely require writing assistance (those that scored ≤10), the overall data indicates a reasonable number of student writing performance.

5.4: Maths Score among the students under study

Math Scores: The math scores reflected that 31% of students scored a 10 or below while 69% scored above a 10 in math, indicating that the majority of students demonstrated a reasonable level of performance in the study of math in our program. The math score ranged from 5 - 18, which, again, indicates significant variation in math ability among students in our program. There is clustering of scores mostly in the range between 11 and 15, suggesting that most students are at least moderately able to reasonably strong in math. The presence of low scoring students does indicate targeted support required in our program will be necessary for a subset of students. Overall, a relatively strong grasp of mathematics exists with the group overall.

5.5: ADHD Score among the students under study

Most of the students included in the ADHD scores showed elevated traits regarding ADHD with only 18% of students recording a score of 10 or below, with 82% of students recording a score of greater than 10. This means that a high proportion of the students are displaying characteristics related to ADHD. The scores are

between 8 to 19 and while most of the students scored between 12 and 14 which demonstrates a certain tendencies with respect to the score. The data clearly demonstrate that, based on their scores, many students show characteristics associated with ADHD, and should probably be on one's radar for appropriate additional attention or screening for those who show especially high scores consistently.

5.6: Frequency Distribution of Continous Variables

The sample analyzes a balanced male (46.7%) and female (53.3%) distribution and meaningful comparisons can be made for both groups. In terms of education levels most students fall in the upper-primary and lower-secondary levels, with the vast majority of students from Grades 5 (34%), 6 (33%), and 7 (30%); and Grade 4 had the fewest number of students (3.3%). the school representation indicates that the majority of students come from St. Joseph's (23.3%) and St. Anne's (20%), indicating because they give valuable information about the educational system or environment and experiences of the participants in these institutions.

5.7: Descriptive Statistics for Continuous Variable

The data indicates an increase in student performance post-intervention. The overall mean pretest was 75.20 as compared to the post test mean of 86.53. The difference implies an overall significant change in students' academic abilities. There was a change due to the intervention as students' heightened academic experience provided for improvement on the post test. Additionally, the standard deviation of the post test means demonstrated decreased variation managable less variability across student performance as a result of the intervention. Overall, with the decreased variability in performance, the use of the intervention possibly afforded students the academic equivalent of developing a uniform performance or at least more similar learning outcomes across the students.

5.8: Normality Test Results for Pretest and Post test Scores

The normality tests verify whether the pre and post assessments followed a normal (bell-shaped) distribution.

• Both tests (KS and SW) resulted in very small p-values < 0.05

• This indicates that the scores do not follow a perfect normal distribution.

• Given that the data is not normally distributed, we need to apply appropriate statistical procedures for analysis that do not assume normality.

5.9 and 5.10: Descriptive Statistics Summary Scores and Wilcoxon Signed-Rank Test Results

The results offer substantial evidence of the intervention's effectiveness, as all 30 students improved their scores, and all students completed the post-test with higher scores than the corresponding pre-test. In cases of standardized testing (i.e., ACT, SAT), there are commonly cases of students scoring the same or lower, this was not the case here. This means that every student was positively impacted by the intervention, and they were all positively impacted in a consistent manner (each scored higher). In addition, there were no cases of students having a similar level of performance or getting worse, stressing the positive impact of the teaching strategy or support strategy applied over the intervention period.

5.11: Test Statistics & Significance

More evidence lies within the statistical analysis, which demonstrated that the assistance given in continued learning not only had a positive impact on their respective score expectancies prior to the intervention period, but the improvements were robust in terms of being statistically valid. Considering the very small p-value (0.000), one can conclude the probability of obtaining such findings is virtually non-existent, therefore the change, in terms of the improvement in scores, is statisitically valid and accepted as being significant. Similarly, the Z-value (-4.787) points to a strong difference in performance of pre-test and post-test scores. Further, the positive ranks were large, which reflected that all students improved. There were no cases of lower scores or a score that stayed the same. This performance equally improved, for all students shows that the intervention worked by improving their respective academic outcomes.

5.12: ANOVA Results for Female Students

The ANOVA findings for female students indicated no statistically significant difference of academic performance in female students among the sampling groups prior to and post intervention. For the pretest scores, the F-value and significance (p-value or Sig.) was 1.113 of 0.382. The significance p-value is much larger than the common significance value of 0.05, indicating the groups did not significantly differ in pretest

performance. Likewise, for the posttest scores, the F-value was 1.064 with a significance p-value of 0.401, indicating there was no significant difference between groups for posttest scores after the intervention. Overall, although the intervention may have worked for some female students, these results suggest that the level of improvement in scores for female students was similar across the four groups, and none of the groups significantly outperformed the others.

5.13: ANOVA Results for Male Students

The ANOVA results for male students indicate there were no statistically significant differences in academic performance between groups both pre-and post-intervention. For the pretest scores, the F-value was very low (0.058) and p-value (0.944) indicates the differences in scores between groups were very minimal and not statistically significant. The same was true for posttest scores with an F-value of 1.311 and a p-value of 0.309 (both of which exceed the threshold of 0.05 for significance). The results suggest while there may have been overall improvements due to the intervention, no one group of male students performed significantly better than other male students, or worse than other male students. The academic progress of male students appears comparably uniform all across the different groups.

5.14: Chi-Square test results table

The p-values signify there is a statistically significant relationship association between the two variables. We reject the hypothesis of independence if $p < 0.05$. In this example, all p-values were above 0.05 indicating there were no significant relationships between the pairs we tested.

5.15: correlation analysis

Correlation analysis generally demonstrated that the post test scores were positively correlated with each other, meaning there was alignment in performance of one post test section with other sections, indicating relative consistency of understanding after the intervention. The correlation analysis showed the highest level of correlation between SECTION_5 and SECTION_6, because both sections demonstrated performances that were relatively aligned. The strengths are categorized as: (i) are regarded as very strong (> .70), (ii) strong (.40.70), and (iii) moderate (.30 .40). A negative correlation among these variables would demonstrate an

inverse trend in performance. The negative relationship with SECTION_1_Pretest and SECTION_4_Posttest indicates the change when students were tested for the last time they might have had a different learning focus, there may have been a change in content or the students progressed in their learning behaviour.

5.16: Summary of Regression Analysis and 5.17: ANOVA (Model Fit Test)

R (0.118): Weak correlation between the independent variables and the post-test scores. R^2 (0.014): The independent variables explain only 1.4% of the variance in post-test scores, reflecting poor model explanatory power. Adjusted R^2 (-0.192): A negative value that reinforces the notion that the model fits the data poorly. p-value (0.996) from ANOVA: The model is not significant, or the independent variables do not predict post-test scores in combination.

Table18: Regression Coefficients

Constant (90.984, p = 0.001): This was the only significant coefficient and it merely tells us the value at which scores begin, and does not shed any light on the relationship between variables. Score Pretest (B = 0.060, p = 0.784): The students' pretest scores did not have any significant effect on the students' post-test scores. School, Grade, Age, and Gender: Each predictor had p-values larger than p = 0.05 thus none of these variables are statistically significant to predict post-test scores. Predicted values had very little variation (Std. Dev. = 0.371) therefore the model predicts quite similar predicted scores for all students. The model has a relatively high residual standard deviation (3.126) therefore there are high prediction errors meaning actual scores are quite different from predicted scores.

5.19: Residual statistics

The statistics summary shows the summary of the predicted values and residuals for the set of 30 observations. The predicted scores ranged from 85.00 to 87.02. The mean was 86.53 and the standard deviation was 0.371. Thus, the predictions were relatively consistent for the sample. The residuals or the differences between the predicted and actual values ranged from -5.214 to 3.587 with a mean of 0.000. This indicates that the estimations of the model were without bias meaning in general terms they were not under or overestimations of modeled predicted values. The standard deviation of 3.126 indicated a moderate variation in estimating

predictions. The standardized residuals (residuals scaled to standardize the residuals) ranged from -1.517 to 1.044 with a mean of 0.000 and a standard deviation of 0.910, suggesting that the predictive model did not have any excessive outliers or anomalies in predicting the residuals.

Learning disabilities in school-aged children have got an exponentially bigger presence in the world of education and have got themselves the status of an entire genre. They have come to get full attention when it comes to performance, emotional well-being, and long-term growth outcomes. These problems, which can be quite a range of issues embedded in students' inability to read, write, and count, and can expand as far as the disorders of the attention-deficit and becoming academically troubled, usually never become noticed by the teachers in ordinary school classrooms. Early identification and timely intervention are critical in addressing these barriers, allowing educators to implement effective strategies that support students in overcoming their academic challenges. Accordingly, the research reported in this paper was carried out in Kumbalangi Panchayat, a region with a diverse educational context, in order to determine the prevalence of students' LD and the effectiveness of the intervention program. The study is going to use quantitative data analysis to show the patterns of academic struggle, and the real-world educational outcomes will be focused on. Furthermore, the said paper shall also get into the underlying factors and the potential of using structured, individualized teaching methods to bring about a great change for the better in the students' learning.

The main purpose of this study was to inspect the prevalence, character, and core reasons for learning difficulties that are being experienced by school children in Kumbalangi Panchayat, focusing on the establishment and implementation of the most suitable intervention strategies. A maximum of 100 students from which a representative sample of 30 students with the most severe difficulties was drawn willingly participated in the survey and intervention exercises. The pre-survey indicators showed that 46% of the students had learning difficulties that could be identified, and in the level of basic skills including reading, writing, and mathematics, they were found to be most challenged. Specifically, 39% and 37% had problems with writing and reading, respectively, indicating the urgent need for extra support. Moreover, the issues of lacking attention also prevailed as 82% of the students scored high on ADHD indicators, thus leading to the inability to concentrate well and get academic success. Emotional and motivational matters were widespread

as well such that 26% had had academic frustration very often, and 61% rated their academic confidence as below average. Most students (40%) saw no growth in their academic performance and few (10.9%), as a matter of fact, gave up certain subjects or simply found that they were not learning with minimum effort, indicating a lack of self-efficacy and engagement.

Shaping a flat world would require structured intervention on this given talent group of 30 students. This group was demographically diverse, almost equally divided by gender and represented grades 4 to 7, and came from both private and government schools. The effectiveness of the intervention was measured by means of pretest and post test score comparisons, finding a statistically significant increase in performance across all areas of academics. Scores on the post test increased uniformly, while the standard deviation decreased, indicating that students scored more uniformly postintervention. The Wilcox Signed Rank Test method was employed following a conclusion of non-normal distributions of scores maintained by the participants up until October 2023, and the p-value of 0.000 indicated that this was not a result of random givens. And, most importantly, the results from the ANOVA analysis revealed that there were no significant differences among the posttest scores when considered according to grade or gender — i.e., all of the student subgroups benefited equally from the intervention. Performance trends by gender, however, showed more subtle patterns. The analyses showed that compared with male students who exhibited a stage-wise persistent improvement across higher grades, female students who began with a higher pretest average but relative decline with grade. This implies that mundane origins like motivation, peer pressure or socio-emotional such stressors may have disproportionately impacted female students' performance post-intervention. Correlation analyses demonstrated robust covariance between performance in different academic areas, suggesting considerable performance linkages, but also suggested a few negative correlations that indicate dynamic learning styles worthy of further investigation. Regression analysis whose goal was predicting posttest outcomes based on demographic parameters - age, gender, school type, pretest scores - resulted in weak results. Having explained only 1.4% of variance ($p = 0.996$), the model suggested these variables hardly predict Academic Performance which were much influenced by factors not accounted for eg; home environment, learning habits, psychological well-being and parental involvement.

Overall, the results highlight the significance of early identification and intervention for students facing challenges in learning. It proves, beyond a shadow of a doubt, that precisely calibrated pedagogical interventions can lift academic performance, across all demographic groups. But the research also highlights the shortcomings of looking exclusively at numbers and demographic data to see how students might struggle to learn. Since student learning is more than quantitative ratios of aspects such as social dynamics or the emotional side of learning, future research should explore qualitative approaches to the learning experience. Research shows that teachers equipped with essential knowledge and tools are able to deliver optimal instruction for struggling learners and should be trained in best practices for serving these students. Taking this moment to shift toward a whole-person, student-centered educational model can create a more equitable and supportive learning environment for all students and can allow them to reach their full academic potential.

BIBLIOGRAPHY

- Kariyawasam, R., Nadeeshani, M., Hamid, T., Subasinghe, I., Samarasinghe, P., & Ratnayake, P. (2019, December). Pubudu: Deep learning based screening and intervention of dyslexia, dysgraphia and dyscalculia. In *2019 14th Conference on Industrial and Information Systems (ICIIS)* (pp. 476-481). IEEE.

- Wright-Strawderman, C., & Watson, B. L. (1992). The prevalence of depressive symptoms in children with learning disabilities. *Journal of Learning Disabilities*, *25*(4), 258-264.

- Rao, S., Raj, A., Ramanathan, V., Sharma, A., Dhar, M., Thatkar, P. V., & Pal, R. (2017). Prevalence of dyslexia among school children in Mysore. *International Journal of Medical Science and Public Health*, *6*(1), 159-164.

- Chacko, D., & Vidhukumar, K. (2020). The prevalence of specific learning disorder among school-going children in Ernakulam district, Kerala, India: Ernakulam learning disorder (ELD) study. *Indian journal of psychological medicine*, *42*(3), 250-255.

- Khanna, P. (2021). Financing Education under Samagra Shiksha Abhiyan: An Initial Analysis in Selected States of India. *Journal of Business Thought*, 63-73.

- Handler, S. M., Fierson, W. M., & Section on Ophthalmology and Council on Children with Disabilities, American Academy of Ophthalmology, American Association for Pediatric Ophthalmology and Strabismus, and American Association of Certified Orthoptists. (2011). Learning disabilities, dyslexia, and vision. *Pediatrics*, *127*(3), e818-e856.

- Ch'ng, T. P., & Jong, H. Y. (2024). Decoding skills, rapid automatised naming and dyslexia screening methods in Malaysia. *Neuroscience Research Notes*, *7*(4), 312-1.

- Döhla, D., Heim, S., & Willmes, K. (2018). Cognitive Profiles of Developmental Dysgraphia. *Frontiers in Psychology, 9*(e0180358). https://doi.org/10.3389/fpsyg.2018.02006

- Reeve, R. A., & Waldecker, C. (2017). Evidence-based assessment and intervention for dyscalculia and maths disabilities in school psychology. *Handbook of Australian school psychology: Integrating international research, practice, and policy*, 197-213.

- Madruga-Rimoli, C. C., Sanfins, M. D., Skarżyński, P. H., Ubiali, T., Skarżyńska, M. B., & Dos Santos, M. F. C. (2023). Electrophysiological testing for an auditory processing disorder and reading performance in 54 school students aged between 8 and 12 years. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research, 29,* e940387-1.

- Bloomer, R. H. (1961). Concepts of meaning and the reading and spelling difficulty of words. *The Journal of Educational Research*, *54*(5), 178-182.

- Masrai, A., & Milton, J. (2015). Word Difficulty and Learning among Native Arabic Learners of EFL. *English language teaching*, *8*(6), 1-10.

- Biswal, R., & Satpathy, P. (2021). Inclusive education for children with developmental disabilities: Scope and challenges. In *Mainstreaming the Marginalised* (pp. 13-35). Routledge India.

- Vohra, R., Madhavan, S., Sambamoorthi, U., & St Peter, C. (2014). Access to services, quality of care, and family impact for children with autism, other developmental disabilities, and other mental health conditions. *Autism*, *18*(7), 815-826.

- Nair, M. K. C., Radhakrishnan, R., & Olusanya, B. O. (2023). Promoting school readiness in children with developmental disabilities in LMICs. *Frontiers in Public Health*, *11*, 993642.

- Ansari, A., & Gottfried, M. A. (2018). Early childhood educational settings and school absenteeism for children with disabilities. *AERA Open*, *4*(2), 2332858418785576.

- Chacko, D., & Vidhukumar, K. (2020). The prevalence of specific learning disorder among school-going children in Ernakulam district, Kerala, India: Ernakulam learning disorder (ELD) study. *Indian journal of psychological medicine*, *42*(3), 250-255.

- Vasquez, J. M. C., Quiroz, P. M. Z., & Martinez, M. E. M. (2019). Dyslexia: ways to identify and address it. *International Research Journal of Engineering, IT and Scientific Research*, *5*(4), 68-74.

- Villeneuve, E. F., Mason, B. A., Lewno, B. M., & Hajovsky, D. B. (2019). Cognitive ability and math computation developmental relations with math problem solving: An integrated, multigroup approach. *School Psychology*, *34*(1), 96–108. https://doi.org/10.1037/spq0000267

- Mann, V. A., Cowin, E., & Schoenheimer, J. (1989). Phonological processing, language comprehension, and reading ability. *Journal of learning disabilities*, *22*(2), 76-89.

- Smart, D., Prior, M., Sanson, A., & Oberklaid, F. (2001). Children with reading difficulties. *Australian Journal of Psychology*, *53*(1), 45–53. https://doi.org/10.1080/00049530108255121

APPENDIX – 1

GENERAL RAN QUESTIONARE FOR LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT

1. Child's Age: [Dropdown: 3–4 years, 5–6 years, 7–8 years, etc.]

2. Grade Level: [Dropdown: Kindergarten, Grade 1, Grade 2, etc.]

3. Known Learning Issues: [Yes/No] (If yes, specify)

4. How well does the child recognize letters?

Always

Most of the time

Sometimes

Rarely

5. How quickly can the child sound out simple words?

Very quickly

Somewhat quickly

Average

Slowly

Very slowly

6. How well does the child understand what they read?

Always understands

Often understands

Sometimes understands

Rarely understands

7. Does the child struggle with blending sounds to read words?

Always

Often

Sometimes

Rarely

8. How well does the child remember words they have previously read?

Very well

Somewhat well

Average

Poorly

9. How well does the child form letters correctly?

Always

Most of the time

Sometimes

Rarely

10. Does the child have difficulty copying words from a board or book?

Always

Often

Sometimes

Rarely

11. How well can the child spell common words?

Very well

Somewhat well

Average

Poorly

12. How well does the child construct simple sentences?

Very well

Somewhat well

Average

Poorly

13. Does the child avoid writing tasks?

Often

Sometimes

Rarely

Never

14. How well does the child recognize numbers?

Always

Most of the time

Sometimes

Rarely

15. How quickly can the child count from 1 to 20?

Very quickly

Somewhat quickly

Average

Slowly

Very slowly

16. How well does the child understand basic addition and subtraction?

Very well

Somewhat well

Average

Poorly

17. Does the child struggle with identifying number patterns?

Always

Often

Sometimes

Rarely

18. How well does the child solve word problems?

Very well

Somewhat well

Average

Poorly

19. Does the child have difficulty staying focused on tasks?

Always

Often

Sometimes

Rarely

20. How often does the child get distracted while reading or writing?

Very often

Often

Sometimes

Rarely

21. Does the child follow multi-step instructions correctly?

Always

Most of the time

Sometimes

Rarely

22. How often does the child complete assigned tasks without reminders?

Always

Often

Sometimes

Rarely

23. Does the child struggle with transitioning between tasks?

Always

Often

Sometimes

Rarely

24. Does the child become frustrated when facing academic challenges?

Often

Sometimes

Rarely

Never

25. Has the child shown improvement over time in their reading, writing, or math skills?

Yes

No

Somewhat

26. Are there any subjects or tasks the child avoids?

Yes (please specify)

No

27. Does the child show a positive attitude towards learning?

Always

Most of the time

Sometimes

Rarely

28. How would you describe the child's overall academic confidence? (Optional open-ended)

APPENDIX – 2

PRE AND POST SURVEY QUESTIONARE FOR LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCAHAYT

1. How easily does the child name common objects or pictures?

- (A) Very easily
- (B) Somewhat easily
- (C) With effort
- (D) With great difficulty

2. How quickly can the child name colors when shown flashcards?

- (A) Instantly
- (B) With minor hesitation
- (C) Takes noticeable time
- (D) Struggles significantly

3. Can the child rapidly name letters of the alphabet in random order?

- (A) Yes, without hesitation
- (B) With slight pauses
- (C) With long pauses
- (D) Cannot name many letters

4. How well does the child recall and pronounce familiar words?

- (A) Perfectly
- (B) Occasionally struggles
- (C) Often mispronounces
- (D) Frequently forgets or avoids words

5. When asked to read aloud, how fluent is the child?

- (A) Very fluent
- (B) Somewhat fluent
- (C) Struggles with some words
- (D) Reads very slowly or avoids reading

6. Can the child recognize rhyming words?

- (A) Always
- (B) Sometimes
- (C) Rarely

- (D) Never

7. How easily does the child break words into syllables?

- (A) Very easily
- (B) With some effort
- (C) Needs help
- (D) Unable to do so

8. Can the child blend sounds together to form words?

- (A) Always
- (B) Sometimes
- (C) Rarely
- (D) Never

9. How well does the child differentiate similar-sounding words (e.g., "bat" vs. "pat")?

- (A) No issues
- (B) Occasionally confuses
- (C) Frequently confuses
- (D) Cannot distinguish at all

10. Does the child replace or omit sounds when pronouncing words?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

11. How well does the child remember instructions with multiple steps?

- (A) Always remembers
- (B) Misses minor details
- (C) Forgets key steps
- (D) Cannot follow multi-step instructions

12. Can the child recall spoken words or numbers in order?

- (A) Easily
- (B) With some difficulty
- (C) Needs repetition
- (D) Cannot recall correctly

13. How quickly does the child respond when asked to name familiar objects?

- (A) Instantly
- (B) Slight delay
- (C) Takes time
- (D) Struggles to recall

14. Does the child struggle to remember sequences (e.g., days of the week, numbers in order)?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Always

15. How well does the child remember newly learned words?

- (A) Easily
- (B) Needs repetition
- (C) Forgets often
- (D) Cannot retain new words

16. How accurate is the child's spelling of familiar words?

- (A) Very accurate
- (B) Somewhat accurate
- (C) Makes frequent mistakes
- (D) Many errors, even in simple words

17. Can the child write letters and numbers in the correct order?

- (A) Yes, with ease
- (B) Minor mistakes
- (C) Frequent mistakes
- (D) Struggles significantly

18. How often does the child reverse letters or numbers (e.g., writes 'b' as 'd')?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

19. How easily does the child form sentences while writing?

- (A) No issues
- (B) Struggles occasionally
- (C) Frequently struggles
- (D) Avoids writing

20. Does the child mix up word order while writing or speaking?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

21. How well does the child stay focused on tasks like reading or writing?

- (A) Very focused
- (B) Occasionally distracted
- (C) Frequently distracted
- (D) Very inattentive

22. Does the child get easily frustrated with reading or writing tasks?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

23. Can the child complete age-appropriate tasks without constant reminders?

- (A) Yes, independently
- (B) Needs some reminders
- (C) Requires frequent reminders
- (D) Cannot stay on task

24. Does the child rush through tasks and make careless mistakes?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

25. How well does the child follow verbal instructions?

- (A) Very well
- (B) Somewhat well
- (C) Needs repetition
- (D) Has difficulty following instructions

26. Does the child avoid reading or writing activities?

- (A) Never
- (B) Occasionally

- (C) Frequently
- (D) Always

27. How confident is the child in reading aloud?

- (A) Very confident
- (B) Somewhat confident
- (C) Hesitant
- (D) Avoids reading aloud

28. Does the child show signs of frustration when reading or writing?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

29. How does the child compare to peers in reading and writing?

- (A) Same or better
- (B) Slightly behind
- (C) Noticeably behind
- (D) Significantly behind

30. Does the child have difficulty expressing thoughts clearly?

- (A) Never
- (B) Occasionally
- (C) Frequently
- (D) Almost always

APPENDIX – 3

AWARENESS CLASS BROCHURE ON LEARNING DIFFICULTY AMONG MIDDLE SCHOOL CHILDREN IN KUMBALANGI PANCHAYAT

PICTURE

REPORT

Topic: Understanding Learning Difficulties Among Middle School Children

Date: Sunday, 23rd March 2025

Time: 8:00 PM

Platform: Google Meet

Location Focus: Kumbalangi Panchayat

Target Audience: Parents of Middle School Children

1. Introduction

An online awareness session was conducted on 23rd March 2025 at 8:00 PM via Google Meet, aimed at educating parents from Kumbalangi Panchayat on learning difficulties faced by middle school children. The session was structured to provide a comprehensive overview of learning challenges, their underlying causes, and strategies for support, with the ultimate goal of fostering a more inclusive and supportive learning environment at home and in schools.

2. Objectives of the Session

- To raise awareness about learning difficulties and their impact on children.
- To educate parents about the biological and environmental causes of these difficulties.
- To provide guidance on supporting children with learning challenges both emotionally and academically.
- To introduce the RAN (Rapid Automatized Naming) survey tool as a diagnostic aid.
- To inspire parents through real-life success stories of children who overcame learning challenges.

3. Session Overview

The session covered the following key areas:

a) What are Learning Difficulties?

An explanation of learning difficulties was provided, including common types such as dyslexia, dyscalculia, and dysgraphia. Emphasis was placed on understanding that these are neurologically-based processing problems that can interfere with learning basic skills such as reading, writing, or math.

b) Causes and Contributing Factors

- **Genetics:** Discussion on how learning difficulties often run in families and the role of hereditary factors.
- **Environmental influences:** Including prenatal and early childhood factors such as nutrition, exposure to toxins, and early childhood stress.

c) Supporting Children with Learning Difficulties

- Importance of early identification and intervention.
- Strategies for creating supportive home environments.
- Role of parents, teachers, and peer support.
- The significance of patience, encouragement, and tailored learning approaches.

d) Introduction to RAN (Rapid Automatized Naming) Tool

The RAN survey tool was introduced as a method to help identify potential learning difficulties in children. Its usage, benefits, and interpretation were briefly explained to encourage parents to participate in screening activities.

e) Success Stories

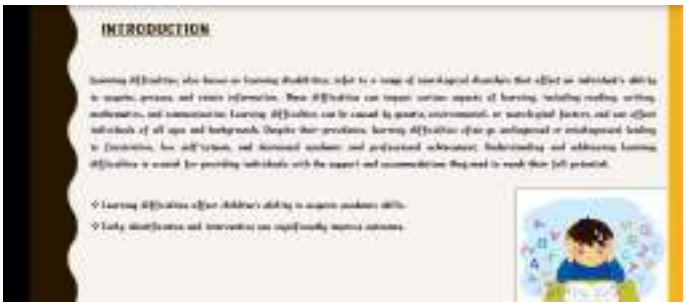
The session concluded with motivational stories of children who faced learning challenges but went on to succeed academically and personally through proper support, personalized learning, and consistent effort.

4. Participant Engagement

Parents actively participated in the session, asked relevant questions, and shared their concerns. There was a positive response to the discussion on practical strategies and the success stories resonated deeply with many.

5. Conclusion

The session successfully raised awareness about the challenges and possibilities surrounding learning difficulties in middle school children. Parents left better equipped to recognize signs of learning struggles and more confident in their role as supportive partners in their children's education.



CAUSES OF LEARNING DIFFICULTIES

HOW TO IDENTIFY LEARNING DIFFICULTIES?

IMPACT ON CHILDREN

ROLE OF PARENTS AND TEACHERS


MYTHS VS. FACTS ABOUT LEARNING DIFFICULTIES


SUCCESS STORIES AND INSPIRATIONAL EXAMPLES


REFERENCES & RESOURCES


CONCLUSION