

**MULTIPLE INTELLIGENCE, STUDY HABIT, AND ACADEMIC
ACHIEVEMENT OF CLASS X TRIBAL STUDENTS IN NAGALAND**

*Thesis Submitted to Nagaland University in Partial Fulfilment of the Requirement for
the Degree of Doctor of Philosophy in Education*



By

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NAGALAND UNIVERSITY

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I, **Vemedo Kezo**, hereby declare that this thesis entitled, **MULTIPLE INTELLIGENCE, STUDY HABIT, AND ACADEMIC ACHIEVEMENT OF CLASS X TRIBAL STUDENTS IN NAGALAND**, is record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or the best of my knowledge to anybody, and that the thesis has not been submitted for any research degree in any other University.

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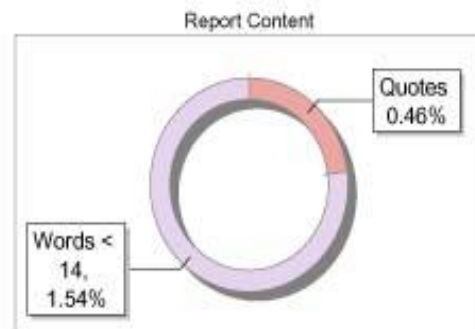
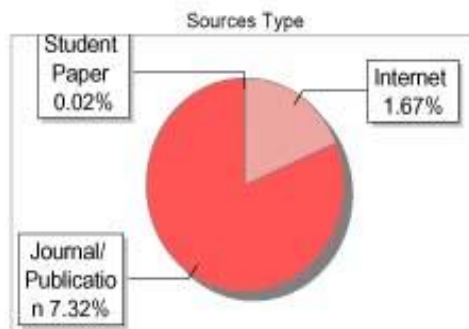
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This is to certify that **Vemedo Kezo**, bearing Registration No. Ph.D./TED/00405 from the Department of Teacher Education, Nagaland University, has completed his Ph.D. thesis entitled “**Multiple Intelligence, Study Habit and Academic Achievement of Class X Tribal Students in Nagaland,**” under my supervision and guidance.

This is his original work and has not been submitted earlier in part or full, or for the award of any degree at any other university or institution. The thesis is now fit for the Degree of Doctor of Philosophy in Education award.

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
AA	Academic Achievement
ANOVA	Analysis of Variance
ASCD	Association for Supervision and Curriculum Development
B.Ed.	Bachelor of Education
BCE	Before Common Era
CE	Common Era
CEO	Chief Executive Officer
COVID	Corona Virus Disease
DF	Degree of Freedom
DOI	Digital Object Identifier
EFL	English as a Foreign Language
GHS	Government High School
GHSS	Government Higher Secondary School
GPA	Grade Point Average
GPT	Generative Pre-trained Transformer
HSD	Honestly Significant Difference
LLCI	Lower-Level Confidence Interval
MI	Multiple Intelligence
NBSE	Nagaland Board of School Education
NEP	National Education Policy
NGO	Non-Governmental Organization
PDF	Portable Document Format
PHSS	Private Higher Secondary School
PNG	Portable Network Graphics
PS	Permitted School
RAC	Research Advisory Committee
RCC	Reinforced Cement Concrete
RPHS	Recognized Private Higher Secondary School
SD	Standard Deviation
SDB	Salesian of Don Bosco
SEM	Standard Error of the Mean

SH	Study Habit
SJ	Society of Jesus
SM	Significant Marker
SPSS	Statistical Package for the Social Sciences
STEM	Science, Technology, Engineering and Mathematics
UAE	United Arab Emirate
UGC	University Grant Commission
ULCI	Upper-Level Confidence Interval
WHO	World Health Organisation

CHAPTER-I

INTRODUCTION

In the animal kingdom, you eat or be eaten; in the human kingdom, you define or be defined.

Thomas Szasz

(A Hungarian-American Psychiatrist and Academic: 1920-2012)

1.1. Introduction

Education aims to enable students to understand the world around them and prepare them to face life's challenges while recognizing their inherent talents. Consequently, they become fulfilled individuals who continuously achieve (Robinson, 2022). This process is an ongoing journey where individuals are increasingly empowered through education. It focuses on helping individuals reach out and be guided by their interests and energies, fostering greater self-actualization (Chomsky, 1972, as cited in Corson, 1980). He also reiterates that education must facilitate and acknowledge the creative impulse inherent in students, which is naturally embedded in children's nature. Therefore, education must create an environment that nurtures these needs in students, with boundaries that are not rigid but flexible, allowing a child to grow and develop to their fullest extent. What is education meant for if it is not aimed at developing the fullest individuality?

Education must raise questions that drive humanity to the next level of learning, where there is no threat and experiential learning emerges spontaneously, helping students uncover many possibilities in life (Mitra, 2021). These infinite possibilities can only be crystallized through the process of education. Therefore, education becomes indispensable in defining and refining self-actualization and enabling customized decisions that allow students to become what they desire. It is about expanding children's horizons, developing their skills, and deepening their understanding of their true worth, making them capable and aligning their inner world with the external world (Robinson & Aronica, 2018). They further argue that they

cannot find their way unless education compels children to understand their unique inner world.

Education, to be relevant and customized, must promote critical and innovative thinking for sustainable development, enabling students to take accountability for their lives. However, this customization of education can be achieved only when we recognize the diversity and uniqueness of each child's mental abilities and aptitudes. This diversity of aptitudes and uniqueness is a significant gift that a child brings to the world, meant to be explored and utilized for optimal levels of self-actualization and the ultimate human good. Robinson and Aronca (2009) argue that intelligence is diverse, dynamic, and distinctive, opening up myriad vistas for addressing new issues. That is why no two individuals with the same intelligence score can achieve the same level of accomplishment in their lives. This underscores the need for education to consider students' diversity and creativity, which can unfold at various stages of life. In his interview with T E Narasimhan, Bhatia (2013), cofounder of Hotmail.com, laments the current education system in India and opines that in India, we teach students how to study without thinking creatively and independently. He repudiates this type of education in the modern context, asserting that knowledge does not propel you further; knowing how to use and apply that knowledge makes the difference. Therefore, we must move beyond this educational trajectory, which only addresses the linear dimension. The fact is that knowledge, learning, and understanding are not merely bits of facts lined up in a row; they need to be connected and related to make sense and be meaningful for the learner in the future. Furthermore, education becomes truly meaningful and relevant only when the learning model in formal settings relates to reality outside the classroom (Holt, 1995).

According to Wagner and Dintersmith (2015), education must engage students with their passions and orient them to develop a sense of purpose and mission to achieve an array of pursuits that will empower them to become what they ought to be. In this trend, we should develop our education to encourage youngsters to bring out the best of their imagination and recognize their self-worth so that they grow in self-confidence to pursue their dreams.

Youngsters must be assured of their dreams, which can motivate them to be more optimistic and self-regulated toward their personal goals (Prensky, 2024). Their learning can become much more vibrant when they take responsibility for it and have certain autonomy to exercise it. Learning becomes more internalized and personal

when education creates a symbiotic relationship between parents, students, and teachers (Stixrud & Johnson, 2018).

Education must play a critical role in empowering young students for the careers they will pursue in the workforce. Skill education at the secondary level can provide students with learning experiences that are more relevant and valuable than typical academic subjects (Lewis, 2000). In this way, students become successful, innovative, adaptable, and productive in their career options. Schools should promote the innate talents of every student, which must be discovered, nurtured, fostered, and developed (Ministry of Education, 2020).

The current formal education system prioritizes cognitive development while sidelining other aspects of personality growth. Every student possesses innate talents that must be discovered, nurtured, fostered, and developed. These talents can manifest through various interests, dispositions, and abilities. Students with strong interests and abilities in each area should be encouraged to explore their passions beyond the general school curriculum.

The current pattern of a “One-size-fits-all” approach to education, with slight variations or modifications, has not empowered students to bring out their best. All students in a given course receive the same type of instruction, assignments, learning assessments, and pre-defined assessment schedules. Therefore, there is a need to strongly support students who exhibit ‘singular interests’ or ‘talents’ beyond the school curriculum (Ministry of Education, 2020).

There is concern that education is not adequately equipping students with the skills, aptitudes, and approaches to the knowledge they will need to prosper in the future (Leadbeater, 2002, cited in Roberts & Owen, 2012). Their rote learning, which is deeply embedded in the learning system, is ineffective at bringing out the best in students. Learning is not designed for students with clear futures and explicit learning goals. Scaffolded learning activities must be encouraged so that students can develop metacognitive strategies, emotional and motivational understanding, and regulatory skills to enhance the affective side of their minds (Roberts & Owen, 2012).

There is a need to impart skill-based learning; students are groomed to become successful leaders in their chosen fields. To facilitate this process, it is paramount for students to think beyond grades and acquire real-life skills. These tangible experiences are often overlooked in traditional education (Chaturvedi, 2023). One of the questions we need to raise at this point in the argument is: Why do people

with their best education and technical knowledge often fail in their jobs? How do average minds, as well as great leaders and managers, become successful in their business? (Sharma, 2022). Today, in our education system, success is measured by passing some of the most competitive exams, which, in a way, separates high IQ individuals from others. However, studies have shown that soft skills account for 85% of success (Sharma, 2022).

Parents want the best education for their children. However, the "best" concept in education is often defined by intense competition, passing some of the toughest exams at ranked schools, and making exams the ultimate goal of education. Students who cannot follow this exam-oriented path are often considered less intelligent and excluded from mainstream society. We must thoughtfully reconsider what education offers our children and how effectively it prepares them to choose a profession that suits contemporary needs (Farr, 2019).

McNulty (2012), in his foreword, argues that we live in an educational environment obsessed with test scores, control, and predictability. As a result, we base most school improvement plans on cognitive assessments drawn from test results. We design solutions for poor student performance around specific content that they struggle to master, and we evaluate their weaknesses by labeling them as inferior. This perpetuates injustice toward their holistic development.

1.2. Need and Importance of the Study

Our education system focuses predominantly on linguistic and logical-mathematical intelligence. We do not provide equal attention to students exhibiting other intelligences, such as artists, architects, musicians, designers, dancers, speakers, and others who enrich our world. Students with these talents often receive little reinforcement and encouragement in their schools. Many end up being labeled as dull or incapable. This emphasis on linguistic and logical-mathematical intelligence results in many students suffering within our current education system, making them feel inferior, less intelligent, and incapable. The standardized academic achievement and learning aptitude test does not accommodate diversity of thought, creativity, divergent thinking, or acknowledgment of other talents, which are neither measured nor reflected in the grade card (Stixrud & Johnson, 2018).

According to the traditional definition, intelligence is ‘a uniform cognitive capacity that people are born with.’ Short answer tests can easily measure this capacity.

However, Gardner argues otherwise. He suggests that intelligence signifies the ability to create an effective product or provide a service valued in a culture; a collection of skills that enables a person to solve real-world problems; and the potential to find or create solutions for issues, which involves acquiring new knowledge. The traditional test requires children to answer questions orally, fill in blanks, or complete other paper-and-pencil tasks, which tends to favor students with strong linguistic and logical-mathematical abilities, while disadvantaging those who may be weaker in these areas but excel in one or more other domains (Armstrong, 2000).

Further, people are not born with a fixed amount of intelligence. Each person has all the intelligence, but with a unique combination in varying degrees. We can improve our intelligence, sometimes more readily in one area than others. This is against the traditional belief that intelligence level does not change over a lifetime. In this sense, students' self-esteem and self-worth levels rise as learners become aware of their intrinsic gifts and talents. The students, in turn, experience a deep self-worth and appreciation of others' gifts, thus developing self-esteem and social skills needed for survival and a meaningful life.

Intelligence is practical only regarding what people can and cannot do with their lives. Growing up requires developing a marketable skill based on what we learned in a formal setup. Utilizing this knowledge is not accomplished through linguistic and mathematical intelligence alone, but through various factors, such as systematic effort, discipline, motivation, and hard work (Schaler, 2006).

The schools and the parents' community also focus on each child's inner capabilities. We have known for many years that humans use only a small fraction of their potential. To quote Armstrong (2000), "assigning the label of gifted to only a few select individuals, we are shutting the door to millions more who possess untold inner riches."

There is also a feeling that students are not sufficiently equipped with the skills to help them deal with the increased demands in the market and the stress they experience. They seemed to lack the support to reinforce skills for finding their path in the competitive world (WHO, 1994).

We consider students misfits, weak, poor, or fail based on tests or IQ scores that rely on logical and verbal intelligence. All students have intelligence, and it depends on the teacher teaching creatively to match their intelligence.

Children deserve to have their individuality and uniqueness fostered and need space to be themselves in the classroom. They require a conceptual space to think, talk, enact, improvise, move, feel, create, craft, and forge their ideas in collaboration. They need to feel some degree of ownership of their learning environment because there is an infinite possibility of opportunity awaiting realization. Students cannot be confined to one stream of learning and becoming but should be offered a landscape of possibilities they can mould and maneuver for themselves (Grimmer et al., 2020).

MI theory suggests that the domain of cognitive abilities alone does not limit intelligence, which is limitless. In this sense, intelligence is not merely an unfolding of what is innate and internal; it also includes culture as a factor in its expression. However, this potential may or may not crystallize, depending on the resources available in a particular society (Craft, 2002). This is why schools must nurture the diverse talents and interests of students. By doing so, a balance is achieved between academic and vocational programs, allowing students to place equal importance on developing their areas of interest and aspirations (Robinson, 2016). We all possess different strengths across various intelligences. Education must provide equal opportunities in all dimensions so that children can enhance their abilities and discover ways to express their individuality (Robinson & Aronica, 2009). The Ministry of Education (2020) emphasizes that, at every stage of education, there must be recognition, identification, and cultivation of the unique capabilities of each student, enabling both parents and teachers to promote holistic development and support the students' interests.

1.3.Statement Of the Problem

The research problem is:

**“Multiple Intelligence, Study Habit, And Academic Achievement of Class X
Tribal Students in Nagaland”**

1.4.Objectives of the Study

1. To investigate the differences in Multiple Intelligences concerning demographic variables of class X tribal students in Nagaland.
2. To study the academic achievement of their study habits
3. To examine the influence of study habits, academic achievement, and socioeconomic status on Multiple Intelligences.

4. To study the relationship between Multiple Intelligence, Academic Achievement, and Study Habits of class X tribal students in Nagaland

1.5. Variables of the Study

The present study is conducted by taking the following variables as the subject of research based on a defined delimitation. They are classified as:

1.5.1. Dependent Variable

- i. Multiple Intelligence
- ii. Study Habits
- iii. Academic Achievement

1.5.1. Independent Variable

- i. Gender
- ii. School Management
- iii. Locality
- iv. Birth Position
- v. Tribe

1.6. Statement Of Hypotheses

The null hypotheses are formulated as follows:

1.6.1. There is no significant difference between Multiple Intelligences:

H₀₁: Between urban and rural students.

H₀₂: Between boys and girls of secondary schools.

H₀₃: Between private and government schools.

H₀₄: Between high socio-economic status and low socio-economic status status of students.

H₀₅: Between different tribes of Nagaland.

H₀₇: Between the different birth positions of the family.

1.6.2. There is no significant difference in Academic Achievement:

H₀₁: Between urban and rural students.

H₀₂: Between boys and girls in secondary schools.

H₀₃: Between private and government schools.

H₀₄: Between high socio-economic and low socio-economic students.

H₀₅: Between different tribes of Nagaland.

H₀₇: Between the different birth positions of the family.

1.6.3. There is no significant difference in Study Habits:

H₀₁: Between urban and rural students.

H₀₂: Between boys and girls in secondary schools.

H₀₃: Between private and government schools.

H₀₅: Between different tribes of Nagaland.

H₀₇: Between the different birth positions of the family.

1.7. The Context: Nagaland

Nagaland became the 16th State of the Indian Union on 1st December 1963. The State of Nagaland is located in the extreme Northeastern region of India and has a total geographic area of 16,579 sq. km, about 0.5 percent of the total land surface of India (Wikipedia, n.d). Linguistically, Nagas belongs to the Tibeto-Burman (Vashum, 2000) group and of Mongoloid stock (Singh, 1981). According to the 2011 census, the total population of Nagaland is 1,978,502, of which 1,024,649 are male and 953,853 are female (Department of Economics & Statistics, 2024)

The population density is 119 per sq. km. Over 72 percent of the population lives in rural areas, while 28.86 percent reside in urban areas. This small percentage of the urban population indicates a slow rate of industrialization in Nagaland. Assam borders it to the west, Arunachal Pradesh to the north, Manipur to the south, and Burma along the extreme eastern boundary (Department of Economics & Statistics, 2024). There are 17 recognized tribes in Nagaland: Ao, Angami, and Sema; Lotha, Chakhesang; Rengma; Sangtam; Yimchunger; Konyak; Phom; Chang; Zeliang; Kuki; Khiamniungans; Pochury; Kachari; and Tikhir.

Until the early 19th century, the Nagas practiced Animism and had no organized religion. However, the arrival of American Baptist missionaries in the Naga Hills on December 18, 1872, marked a turning point in their lives. The Baptist missionaries introduced Christianity to the Nagas through education and eventual conversion. Today, nearly all Nagas are Christians. According to the 2011 census, 87.93 percent of the population identified as Christians.

From 1963 to 1972, the State was divided into three districts: Kohima, Mokokchung, and Tuensang. However, the number of districts increased to seven

between 1981 and 91 and eight in 2001. Currently, the State is divided into 17 districts: Kohima, Mokokchung, Dimapur, Wokha, Zunheboto, Phek, Tuensang, Mon, Kiphire, Longleng, Peren, Chumoukedima, Noklak, Shamator, Tseminyu, Nuland, and Meluri (Department of Economics & Statistics, 2024).

As per the 2011 census, Nagaland has eleven districts. However, over the years more districts have been created on the basis of tribal population. At present there are 17 districts in Nagaland and Meluri is the latest district created on 2nd November 2024 and inaugurated on 21st February 2025. Below is demographic profile of Nagaland as per the senses of 2011.

Table 1.1: Demographic Profile of Nagaland

SL.NO	DISTRICT	POPULATION	SEX RATIO	LITERACY	DENSITY
1	Dimapur	3,78,811	919	84.79%	409
2	Kohima	2,67,988	928	85.23%	183
3	Mon	2,50,260	899	56.99%	140
4	Tuensang	1,96,596	929	73.08%	78
5	Mokokchung	1,94,622	925	91.62%	121
6	Wokha	1,66,343	968	87.69%	102
7	Phek	1,63,418	951	78.05%	81
8	Zunheboto	1,40,757	976	85.26%	112
9	Peren	95,219	915	77.95%	58
10	Kiphire	74,004	956	69.54%	65
11	Longleng	50,484	905	72.17%	90

Source: www.census2011.co.in

Figure 1.0: The Political Map of Nagaland



Source: BurningCompass.com

1.8. Literacy In Nagaland

According to the 2011 census, Nagaland's literacy rate is 79.55 percent, above the national level of 74.04 percent. The literacy rate improved from 10.38 percent in 1951 to 80.1 percent in 2011. The table presents the state's decadal growth rate.

Table 1.2: Decadal Growth Rate of Literacy

Year	Male	Female	Total
1951	15.00	5.74	10.38
1961	24.04	11.34	17.91
1971	36.01	18.65	27.40
1981	49.16	33.72	41.99
1991	67.62	54.75	61.65
2001	71.77	61.92	67.11
2011	82.3	76.7	79.55

Source: Nagaland Statistical Handbook, 2025

The table demonstrates that literacy rates have risen significantly over the decades. Furthermore, the data from the 1951-2011 censuses indicates that the female literacy level is markedly lower than the corresponding rates for males in the state. With the increase in literacy rates, the number of individuals at the primary school level has grown, and the number of schools has doubled. Additionally, higher educational institutions have surged, resulting in more students enrolling in higher education.

1.9. Growth Of Education in Nagaland

1.9.2. Pre-Colonial Era: Morung and Socialization Agent

Morung, the bachelor's dormitory, played a significant role in maintaining the social ethos and instilling traditional values in youngsters. In the Morung system, learning was informal, involving hands-on experience and imitation from peer groups. It served as the primary education center in Naga society (Shishak, 2010). When young boys and girls reached puberty, they were invariably inducted into the morung through the peer system. There is no ritual for introducing them to this place, except for the initiation by the entire village social system.

a. **Informal Educational Institution:** The morung functioned as a school where the art of warfare, traditional laws, ancient history, and chivalry were taught. In addition to being the central meeting place, its most significant impact was initiating young boys into community membership, teaching them the balance between individual identity and the interests of the clan and community. Cooperation, service to the community, and a code of conduct regarding social ideals were imparted through

living examples within this institution. Through this institution, young boys acquired warfare skills and the ability to defend the village when necessary. Material culture, customs, and traditions have been transmitted in the morung by sharing life experiences, as there is no written communication.

b. **Communication of Oral History:** Folklore, myth, taboo, and history were the primary means of teaching village youth. Around the fireside at home, elders often shared stories with groups of children. In the early days, storytelling in the morung appeared more organized. An elder in the village would recount past tales to the younger generation. Folk stories contain fewer romantic episodes and focus more on chivalry, customs, and traditions. They also explore themes such as animism, creation, the soul's journey after death, and similar topics. Additionally, boys learned skills in fighting, wrestling, and other traditional sports for various occasions.

Traditional knowledge includes herbal plants for healing and treatment methods, hunting techniques, handicraft creation, forest conservation, terrace farming, and irrigation canal construction. Girls were also taught traditional weaving, cotton spinning, and plantation work. This survival knowledge is passed down orally through the morung and other informal gatherings.

c. **Learning life skills:** The morung serves as the cultural hub and base for the village military guards. This institution is regarded as a source of art and culture. Like the boys' dormitory, a girls' dormitory was commonly found in most Naga villages, where girls lived after puberty until they chose partners and began family life. While residing in the morung, their senior friends taught them skills such as spinning, weaving, embroidery, stitching, sieving, cooking, and rice brewing. They also learned folklore and dances from older girls and valuable lessons on good behavior, manners, character, morality, and the ethical code of conduct (Yanthan, 2019).

We can see that the morung institution played a significant role in shaping the entire lifestyle of the Nagas in every aspect of their lives. In addition to the morung, the fireplace also serves as a space for socialization. Important meetings and instructions from parents to children take place around the fireplace. Therefore, the fireplace also contributes to shaping and molding the values of the youngsters under their parents' guidance. However, with the arrival of Western education through the missionary movement, a paradigm shift occurred in the social fabric of the Nagas.

1.9.3. Post Colonial Period: Baptist Church and Education in Nagaland

The survey of the history of education in Nagaland is incomplete without considering the arrival of Christianity. The introduction of Christianity, facilitated by the British administration's invitation to the region, spurred progressive development and change among the Nagas. The historical development of modern education can be traced back to 1872, when the Ao Nagas embraced Christianity and were baptized by Rev Edward Winter Clark in November 1872, during which 15 Aos received baptism on 22 December 1872 (Puthenpurackal, 1984). This marked a watershed moment, as the hard work of the American Baptist Mission created a turning point that led to greater and steady development of the Christian movement alongside educational advancement.

In 1878, Mrs. Mary Mead Clark arrived at Molungyimsen, establishing the first formal school to educate locals in Bible reading and the singing of Christian devotional hymns. Consequently, American Baptist missionaries began teaching the alphabet in various ways (Longkumer, 2022). The missionaries also started learning the local languages to enhance the effectiveness of their ministry and translated the Bible into the Ao language. Dr. Clark was one of the most prolific missionaries who translated the Bible into the local language and wrote the Anglo-Ao dictionary, published after fifteen years (Sharma & Ao, 2000, as cited in Longkumer, 2022).

By 1886, the Christian missionary movement had solidified. At that time, eight mission schools were established in eight villages, with fifty-six students officially enrolled. In 1887, Dr. S.W. Rivenburg took charge of the Kohima Mission from C.D. King, who left due to poor health. It was through Dr. Rivenburg's initiative that the Angami dialect was first put into Roman script. By 1892, most areas in Kohima and Mokokchung were placed under regular British Indian administration (Puthenpurakal, 1984).

In 1895, S.C. Perrine established the Impur Mission School. This initiative provided a clear direction for local education, and after completing their formal studies at this center, students were subsequently sent to the Mission School in Jorhat. This progression also contributed to the Christian missionary movement's growth and education. Those locals educated at the Jorhat Mission School took on supporting roles as teachers and in various auxiliary positions within the missionary venture (Longkumer, 2022).

Figure 1.1: Growth of the Christian Movement from 1872 to 1900



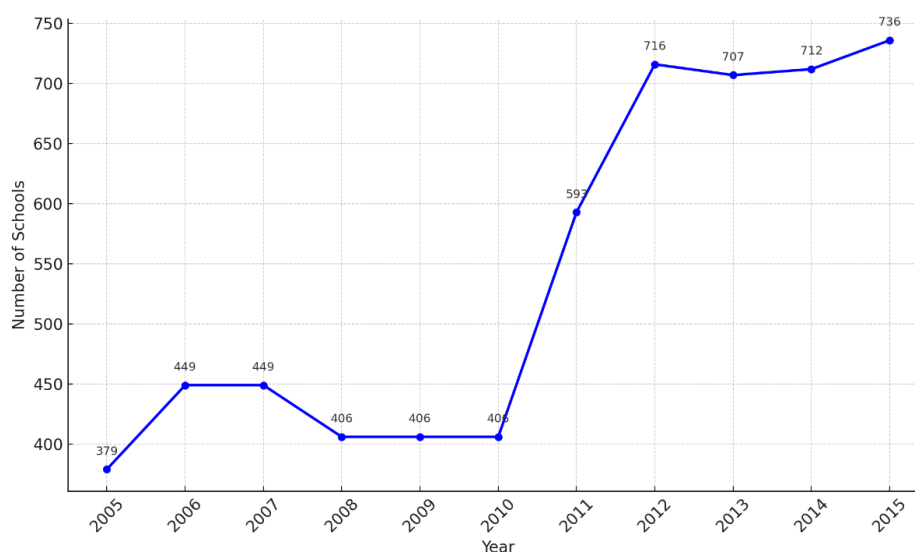
Source: (Philip, 1976; PNG file generated from ChatGPT, 2025)

1.9.4. Government Initiatives for Education in Nagaland

By 1919, the Impur Mission had steadily expanded, leading to the Training School's elevation to a Middle English School. It was renamed the Impur Mission Training and Middle School and received a government grant-in-aid of fifty Rupees (Temjen, 2009, as cited in Longkumer, 2022). 1925 class seven was reinstated, followed by class eight in 1926. Bible classes and teacher training courses became part of the educational program. However, in 1938, Mr. E.T.D. Lambert, then Deputy Commissioner of Kohima, urged the government to establish a high school for Nagas. After extensive discussions, it was decided that Bible teaching would be allowed outside school hours, ensuring that non-Christians would not be required to receive such teachings (Puthenpuraka, 1984).

Before 1945, the Naga Hills had 161 government primary schools, three government middle schools, one government high school in Kohima, and one government-aided high school in Mokokchung. A significant educational advancement in the Naga areas occurred after World War II. The missionaries had previously controlled most of the primary schools, but the government soon took over many of the mission schools due to financial difficulties. By 1946, the Naga Hills had expanded to 225 primary schools, 27 middle schools, three high schools, and one junior technical school offering two trades: carpentry and blacksmithing. The Inspector of Schools, Upper Assam Circle, supervised these schools, with headquarters in Jorhat (Yanthan, 2019).

Figure 1.2: Growth of Secondary Schools in Nagaland (2005-2015)



Source: www.ceicdata.com, PNG image developed from ChatGPT,2025

1.9.5. The Emergence of Systematic and Holistic Education

The post-independence era saw the gradual development of the educational landscape in Nagaland. While American Baptist missionaries were actively involved in the region, the Catholic Church was not allowed to evangelize there, as Nagaland was designated for the American Baptist Church. The British administration of India permitted Meghalaya to serve as the official ground for the Catholic Church to establish itself and spread its teachings. At the same time, Mizoram was designated for the Presbyterian Church. However, after independence, foreign missionaries had to leave. By then, the Baptist Church had already established its presence, and lay leadership continued evangelizing among other tribes, consolidating the movement and the Church.

Before leaving Nagaland, the British Government of India showed its gratitude to the Nagas for siding with them during the war, and as a gesture of their gratitude, built the Naga Hospital for them. In the records of Syiemlieh (1990):

[The hospital] was a war gift that needed nurses to care for the patients. The British soon left the hills without filling the requirement, and the district administration of the Nagal Hills had to look for suitable staff. Akbar Hydari, the Governor of Assam, communicated this need to Bishop Stephan Ferrando, [] whose diocese covered the entire Northeastern region of India (pp. 41- 42).

This marked the beginning of the Catholic presence in Nagaland. The Spanish-based Congregation of Christ Jesus was invited, and Sr. Margarita and Sr. Guadalupe, along with their chaplain, Mongsinor Bars, arrived in Kohima on December 31, 1948. After meeting the spiritual needs of the sisters for three years, he left Kohima in 1952, and Fr. Marochino SDB took over. Following the conclusion of the Spanish Sisters' service at the Naga Hospital in 1955, the Catholic Mission came under Fr. Marochino's supervision. He quickly recognized the need to establish a formal school to educate the Nagas, particularly in the Kohima area, which led to the creation of Don Bosco Elementary School. This prompted them to start additional local schools under their pastoral care.

The same branch of the Salesian fathers started the mission in Lakhuti and established the community in 1951. These fathers took children to Dibrugarh, Golaghat, and Shillong; however, they eventually established their school at Lakhuti, Don Bosco School. From these two centers of the Christ King community at Kohima Village and Lakhuti, the Catholic mission opened primary and secondary schools wherever they established their faith communities, creating new avenues for educational growth in Nagaland.

1.9.6. The Expansion of Catholic Education in Nagaland

When Nagaland gained statehood in 1963, it had 650 primary schools with 38,468 students and 1578 teachers; 89 middle schools with 16,746 students and 641 teachers; 22 high schools with 7,492 students and 299 teachers; one polytechnic with 56 students and five teachers; and one government college with 169 students and 21 teachers (Govt. of Nagaland, 1968). To enhance the quality of education, Mr. John Bosco Jasokie, the then Education Minister of Nagaland, invited the Jesuit Order to establish premier institutions in Nagaland, such as St. Joseph's Darjeeling, St. Xavier's Kolkata, and St. Xavier's Mumbai, which are known worldwide for their educational ministry from secondary to university education. Therefore, at the invitation of Archbishop Hubert Rosario, the Archbishop of Shillong, the Karnataka Jesuit Province arrived in Nagaland in 1970 and began its mission in the Kohima District, particularly in the Southern Angami region, eventually expanding to the Phek, Kiphire, and Tuensang districts. In these districts, the Jesuits established primary schools, which today are all full-fledged high schools.

With the arrival of the Jesuits, other religious congregations quickly followed, including the Missionaries of St. Francis De Sales and the Franciscans. These religious groups traveled to the most remote areas of Nagaland and established schools for the people, emphasizing the comprehensive development of the students. Today, the Catholic Church operates 28 Higher Secondary Schools, 32 High Schools, and 46 Primary and Middle Schools, providing quality education that is accessible to the common people.

Modern education in Nagaland has made significant progress over time, thanks to initiatives taken by both government and private institutions. According to the Nagaland Board of School Education Report 2023, Nagaland has 52 government higher secondary schools, 251 government high schools, 136 private higher secondary schools, 91 recognized private high schools, and 213 permitted schools. In total, there are 743 schools providing education in Nagaland.

Table 1.3: Number of Schools in District-wise as of 2024-25

Sl. No	DISTRICT	GHSS	GHS	PHSS	RPHS	PS	Total
1	Kohima	8	16	32	18	15	89
2	Mokokchung	5	37	13	11	5	71
3	Tuensang	3	20	2	5	11	41
4	Mon	6	17	6	1	34	64
5	Phek	4	35	6	12	6	63
6	Wokha	4	21	4	7	14	50
7	Zunheboto	5	21	5	14	12	57
8	Dimapur	2	8	32	8	42	92
9	Kiphire	2	15	2	2	9	30
10	Longleng	1	15	1	2	5	24
11	Peren	4	16	7	4	8	39
12	Noklak	1	5	0	1	3	10
13	Chumoukedima	4	11	24	3	36	78
14	Niuland	1	6	0	1	9	17
15	Tseminyu	1	6	1	2	2	12
16	Shamator	1	2	1	0	2	6
	TOTAL	52	251	136	91	213	743

Source: (NBSE,2024)

1.1.0. What is a Naga?

The word “Naga” itself is shrouded in mystery and probably a name given by non-Nagas. Various interpretations have been offered, but no unanimity or authentic version exists.

Some say the word meant “naked,” and while that may be severe, many others who live contiguous to the Nagas and have traditionally been less clothed than the Nagas have not been graced with the appellation. Others have argued that Naga refers to hill people, warriors, and snake worshippers. This should not, however, be confused with the naga sadhus from mainland India. Many anthropologists believe that the word Naga is of Tibeto-Chinese origin, rather than being a Sanskrit word, although the early neighbors of the Nagas could have also given it in the current location.

This word is also found in Japanese and the Philippines as names and places. Therefore, the word itself does not seem strange to others of Mongoloid heritage. Some Underground Naga leaders who visited China reported that certain individuals from southwestern China identified them as Nagaremi, which is supposed to mean the people of Nagas. Naga refers to a place or village in this context. Others claim that it simply means “Naga People.” In some Naga tribes, the word “mi” means people.

According to Shimray (1985), the word Naga is derived from the Burmese word “Naka” (or in some of the Naga languages, like the Konyaks *inter alia*), meaning pierced ears, as the Nagas had a tradition of making holes in their ears for decoration. There is a story that the Tenyimia group was formerly known as Tanyimia, suggesting the descendants of those who managed to escape. The tribes within this group are believed to have fled the harsh labor conditions during the construction of the Great Wall of China. However, no legends or folklore support this theory. This idea emerged only after some Naga Underground returned from China. Therefore, without a straightforward historical account, establishing a solid basis for the origins of the Nagas is challenging. Lacking historical records, we can only make tentative arguments without strong premises. Nevertheless, examining culture and folklore can enhance our understanding of the Nagas’ socio-cultural dimensions.

The Nagas believe their soul will go to the east, where they come from. The belief in the North-South movement (from Mongolia to the present state) and the after-death journey towards the east is strengthened because all those who have cultural affinities with the Nagas are spread throughout Southern Asia, from Myanmar

to Formosa (Taiwan). Among those mentioned are the Kayas and Dyaks of Borneo and the Bontoc Igorots of the Philippines.

The Nagas' historical background is quite vague, so it is not easy to establish that fact. Nonetheless, they belong to the Mongolian race. Many Indian authors have mentioned the presence of Naga tribes during the Vedic period, but the present scenario and social fabric do not match the rest of the country.

1.1.1. The Tribe Defined

The word tribe is derived from the Latin term *tribus*, denoting ancient Rome's administrative divisions and voting units. It was first used in biblical texts in Middle English in the thirteenth century to refer to the thirteen divisions of the early Israelites. However, by the sixteenth century, social anthropologists began to apply the concept of race and lineage (Sneath, 2016).

Encyclopaedia Britannica (2025) defines ‘**tribe**’ as a notional form of human social organization based on smaller groups having temporary or permanent political integration and defined by traditions of common descent, language, culture, and ideology.’

David & Whitten (1976) define it as “tribals are characteristically small-scale groupings that display some form of cultural unity; the members themselves explicitly recognize some affinity toward each other.”

D.N. Majumdar (1950), a celebrated Indian Anthropologist, defines a tribe as ‘a social group with territorial affiliation, endogamous with no specialization of functions, ruled by tribal officers, hereditary or otherwise, united in language or dialect, recognizing social distance with other tribes or castes.’

The term ‘tribe’ has a pejorative connotation in other parts of India and abroad; however, it carries an affirmative identity in Northeast India and Nagaland. Therefore, when referring to people as a tribe, we adopt the widespread usage that defines a class sharing a common culture and language, along with a cohesive social ethos and territorial affiliation. In this context, Naga refers to a group of people with distinct characteristics that set them apart ethnically from the rest of humankind, with an identity shaped by geography, cultural values, and ethos. Consequently, they can be collectively identified as a tribe. Venuh (2014), in his book, *People, Heritage and Oral History of the Nagas*, describes the different tribes of the Nagas. We know briefly mentioned as under.

a) **Angami:** The name Angami has been used for a long time, and now the Angami use it to describe themselves, their identity, and their origin. According to legend, the origin of this tribe is from Khezhakeno village. The ancestors of the Angami tribe moved from this village to their current habitat. This group of people is settled in different districts of Nagaland, namely Kohima and Dimapur districts. Within the Kohima district, they are further divided into four distinct regions: South Angami, located in the foothills of the famous Mt. Japhu; Western Angami, found in the western part of Kohima; and North Angami.

b) **Ao:** The Aos are a Tibeto-Mongoloid racial group. Their oral tradition holds that they emerged from Longtrok (meaning six stones). Linguistically, the Ao tribe is further classified into Mongen, Chungli, and Changki based on migration roots, with each group speaking a distinct language. Presently, the Aos occupy the western part of Nagaland in the Mokokchung District administrative zone. However, among all the Naga tribes, the Ao tribe was the first to receive modern education by adopting the Christian faith in 1872, thus becoming the most progressive among the Naga tribes.

c) **Chakhesang:** Chakhesang is a conglomeration of three linguistic groups: Chokri, Khezha, and Sangtam. This Sangtam group includes the Pochuri group, which has a very close linguistic connection with the Rengma and Sangtam tribes. In 1995, the State Government recognized the Pochury tribe as a unique tribe on par with the other tribes of Nagaland. To facilitate more significant progress, the State upgraded the Meluri subdivision of ADC to a full-fledged district headquarters in December 2024. Now, strictly speaking, there are only three linguistic groups: Chokri, Khezha, and Pomai (Four villages under the Razebe EAC subdivision).

d) **Konyak:** The Konyaks are the largest tribes and the last headhunting tribes of the Nagas. They are not only residing in Nagaland along but they are also found in the southern part of Arunachal and the western Mynmar. Before they embraced Christianity they were ruled by their Angs. One of the distinctive features of the Konyaks is their tattooed face. This is only peculiar to the Konyaks for both man and woman. They are dominantly in Mon district.

e) **Lotha:** Lothas, also known as Kyong, is a tribe that meticulously, devoutly, and religiously practices ritual offerings and sacrifices. In the words of Mozhu (2004), Lotha means people who have entirely sacrificed to the gods' satisfaction. 'Lo' means sacrifice or offering, and 'Tha' means fully or satisfactorily. The Lothas inhabit the Wokha district of Nagaland. They belong to the Mongoloid racial stock and speak the Lotha language, which is classified as a Tibeto-Burman language.

f) **Phom:** The origin of the name 'Phom' is obscure. Some say the name is derived from a beautiful lady named 'Bhumla', which means 'the lady of the clouds.' Legend has it that she and her husband had many offspring, and their descendants were called 'Phom.' Others suggest that the English derived the name from the word 'Bhum,' which means 'cloud.' When the British visited the Phom area, they found a Banyan tree at every main entrance of the Phom villages. When asked about the tree's name, the natives replied it was called 'Bham.' Thus, the name 'Phom' came into existence. They named this because clouds mostly covered the 'Phom' area (Venuh, 2014). The Phoms are in Longleng District.

g) **Pochury:** Like the rest of the Naga tribes, Pochury belong to the Mongoloid group. The oral tradition states that they migrated from the Rengma area. It was from the northern section that the Eastern Rengma, who called themselves Anyu/Village, split off. From Kitagha, the Eastern Rengma began their long journey (Mills, 1982). The term 'Pochury' was largely unknown until 1950. They were called 'Eastern Rengma' or 'Southern Sangtam' (Saul, 2005). In the 20th century, the British first acknowledged the unique ethnicity of these people, designating them as 'Southern Sangtam'. The Pochury Tribe is located in the Meluri district.

h) **Rengma:** The first official record of the Rengma Nagas in Assam's Karbi Hills was made in 1855 by Major John Butler, a British officer posted in the Northeastern region. Butler noted that the Rengmas in Karbi Anglong had migrated there from the Naga Hills in the early 18th century, abandoned many tribal customs, and married into local communities (Venuh, 2014). Rengma is also classified under the Tibeto-Burman language family (Burling, 2017) and is spoken in Northeast India, particularly in Assam, Nagaland, and Manipur. The term "regma," which is an exonym, literally

means “ring men,” derived from the word’s “ring” and “men,” as named by the British during the colonization period. Currently, the Rengmas reside in Tseminyu District.

i) **Sangtam:** The Sangam comprises four linguistic groups: Phiru, Alisopur, Sanphur, and Phelungre. Today, Phiru is the official language of the joint. Those who settled on the northern side of Nagaland were called Phiru, while those on the eastern side were known as Kijinglangru. According to ancient beliefs, the Sangtam people thought the word Sangtam was derived from the Ao word ‘Satem, ’ which means ‘freely’ or ‘spacious’. The Sangtam people are one of the major ethnic groups in Nagaland. They currently inhabit two districts, Tuensang and Kiphire.

j) **Sumi:** The Semas differ in language, customs, and appearance from other nearby tribes; however, as the legend goes, they are also an offshoot of their siblings, Angami and Chakhesang. Language affinities exist between these three tribes, particularly the Chakhesang Khezha language, which bears many similarities to the Sumi language. In terms of appearance, the Sumis resemble the Rengma tribe (Elwin, 1969). They predominantly inhabit the Zhunheboto district; however, due to their nomadic culture, they can be found throughout Nagaland, especially in the Dimapur district.

k) **Yimkhiung:** Yimkhium belongs to the Ao group, part of the Tibeto-Burman branch of the larger Sino-Tibetan language family (Raguibou & Borah, 2020). They are also believed to have migrated from China along the Chindwin River and crossed the Saramati areas along the Zungke River (Venuh, 2014). They are bordered by Myanmar to the east, Khiamnungan to the northeast, and Sumi and Sangtam to the north.

l) **Zeliang:** The Zeliang tribe comprises two sub-tribes: Zeme and Liangmai. They are one of the Naga tribes that occupy the Peren district of southern Nagaland. They are also found in Manipur and the North Cachar region of Assam. They share the myth of originating from Khezakenoma village, and the Zeme are also considered part of the Tenyimia group (Sachdeva, 2001).

1.1.2. Conceptual Clarification

It is appropriate and methodologically coherent to define and clarify the main concepts on which the study is based: multiple intelligences, study habits, academic achievement, and tribes. However, before delving into the study concepts, it is important to discuss the foundational concept on which the term multiple intelligence stands and progress to the present theoretical framework today. From a historical perspective, we now discuss the term intelligence.

1.1.3. Intelligence: Intelligence originates from the Latin verb " intellegere, " which translates to " to understand. " Numerous psychologists have offered their definitions; however, Roger contends that intelligence lacks meaning without contextual relevance. He defines intelligence as 'the purposive adaptation to, shaping of, and selecting of real-world environments pertinent to one's life' (Stenberg, 1985). He further stresses that intelligence should apply to an individual's behavior within a specific environment, noting that the intelligence of an African pygmy may not hold relevance in American culture, and vice versa. The crux of his argument is that intelligence must not be divorced from its socio-cultural context. This indicates that what is deemed intelligent in one culture or region could vary significantly in another.

Another critical concern regarding standardized tests is the bias towards certain groups they assess. What is deemed fair and standard may not necessarily apply in different cultural contexts. Research has consistently shown that when standardized tests focus on cognitive levels, Black individuals tend to have a lower standard deviation compared to White individuals across all contexts (Jeanne M., et al., 2008). Furthermore, they pointed out that the conventional view of intelligence and intelligence testing focuses on a singular dimension: cognitive ability, primarily assessing verbal and mathematical skills that define general cognitive ability (g). When we define human intelligence solely through our capacity for systematic thought and the verbal and mathematical skills learned throughout our education, we restrict our understanding of intelligence to exclude other vital human attributes. The demand for a broader conception of intelligence is growing, extending beyond just language and mathematics to include a range of human skills recognized in different cultures. This includes Sternberg's practical intelligence, Goleman's emotional intelligence, and Gardner's theory of multiple intelligences. These broader views on intelligence deepen our understanding of individual differences and strengths (Jeanne M. et al., 2008).

Gardner's contributions stand out when exploring personal differences and strengths through multiple intelligences. He posits that human intelligence should not be confined to linguistic and mathematical skills. His groundbreaking book, "Frames of Mind: The Theory of Multiple Intelligences", published in 1983, transformed our comprehension of human intelligence.

According to Gardner (1983),

Intelligence is the ability to create an effective product or offer a service valued in a culture. It is a set of skills that makes it possible for a person to solve problems in life. Intelligence is the potential for finding or creating solutions for problems, which involves gathering new knowledge.

However, in his later work, *Intelligence Reframed* (1999), he refines his definition as a "biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture." Gardner sees intelligence not only as a genetic factor but also as a byproduct of a biocultural product, as a dynamic entity ever becoming and evolving. Therefore, in the light of the above definitions, he expounds the theory of Multiple Intelligences.

1.1.4. Multiple Intelligence

Gardner elaborately illustrates seven types of intelligence in *Frames of Mind* (1983); however, in *Intelligence Reframed* (1999), he succinctly explains the eight types of intelligence and ponders whether spiritual and moral intelligences could be included in the list. We will now briefly mention seven types of intelligence propounded by Gardner.

1. **Linguistic Intelligence:** Linguistic intelligence involves the ability to learn languages, and the capacity to manipulate the syntax structure of language, the sound of language, and the practical use of language for communication. It also includes the aptitude bent towards storytelling, writing, editing, journaling, phonetics, oratory, etc.
2. **Mathematical Intelligence:** This intelligence involves the capacity to analyse abstract problems logically, carry out abstract operations with figures, and use one's mind to infer conclusions and deduce mathematical issues logically. This

type of intelligence is expert in mathematical categories and can classify, generalize, and calculate things with greater ease.

3. **Visual Intelligence:** Visual intelligence involves the ability to see patterns of colours and create presentable images. This type of intelligence involves the creative use of colour and the ability to visualize images for meaningful representation. It also includes using one's mind to express oneself graphically with a high artistic tapestry.
4. **Physical Intelligence:** This type of intelligence involves using one's body partly or wholly and manoeuvring with ease and agility for the desired movement and output. It involves physical skills and body coordination, as well as maintaining flexibility for physical activity through sports, games, or other areas of life that pertain to the dexterity of body movement.
5. **Musical Intelligence:** Expert in identifying musical notes and the ability to learn music, compose songs, and perform musical expression. It also includes having an ear to differentiate the musical notes, pitch, melody, rhythms, and beats in musical expression.
6. **Interpersonal Intelligence:** It is the ability to understand the mood, feelings, and intentions of others. This type of intelligence seeks to view from the other perspective and the desires of others that will bring out the best in the person, either personally or collectively. It also involves the ability to read another's expression, whether overtly or tacitly.
7. **Intrapersonal Intelligence:** Intrapersonal intelligence involves understanding oneself and regulating one's life for a meaningful and purposeful living. It includes understanding one's strengths and vulnerabilities, having a certain degree of self-esteem, and living a regulated life.
8. **Naturalist Intelligence:** A naturalist intelligence exhibits recognition and understanding of the natural world. It includes the ability to relate to and understand the fauna and flora of an individual locale. This type of intelligence involves having a deep familiarity with the natural settings and being able to exploit and discriminate for a constructive purpose. Below is the graphical representation of Gardner's eight types of intelligences.

Figure 1.3: Multiple Intelligence



Source: Adapted from teachhub.com

1.1.5. Academic Achievement

Academic Achievement is the progress made toward acquiring educational skills, materials, and knowledge, usually spanning various disciplines. It refers to achievement in academic settings rather than general knowledge acquisition in non-academic settings (Bolt,2011).

Academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university (Steinmayr et al., 2016).

Academic achievement is a direct manifestation of learning effectiveness and a valid indicator of the effectiveness of teaching and education in higher education and the overall development of students. Various factors influence the academic achievement of college students, and researchers have conducted much research on them. In this paper, we review the relevant studies at home and abroad and comment accordingly (Zhen & Mustappa,2022).

Morgan (1961), in his book *Introduction to Psychology*, defines achievement as "accomplishment on a test of knowledge (or) skills, also a personal motive."

Crandall (1963) suggests that "achievement may be viewed as behavior directed towards the attainment of approval or the avoidance of disapproval for competence of performance in situations where standards of excellence are applied".

1.1.6. Meaning of Achievement

The word "achievement" means the result or level of success attained by an individual or group in completing a task, whether academic, manual, personal, or social.

Academic or scholastic achievement refers to the level at which a student functions in school tasks, such as science or mathematics, assessed by school marks or grades earned. In trades and occupations, it signifies a change in the level of skills attained, as determined by marks or grades, encompassing all behavioral changes that occur in the individual due to various learning experiences.

Thorndike and Hagen (1970) say, 'Achievements are performance-based to show that a pupil has already learned to do'.

This critical condition underscores the importance of fostering a culture of achievement. In such a culture, learning, progressing academically, and working steadily and purposefully in school are seen as the standard patterns of behavior for students in elementary and secondary school and beyond. For this to happen, kids have to "get it"-that is, there must be a substantive meaning of achievement that they understand and believe to the extent that it becomes their primary motivation to excel academically. This motivated desire can lead to performance supported in the school, the home, and the community until it becomes the guiding pattern of a child's life.

1.1.7. Factors Affecting Academic Achievement

Both positive and negative factors consistently contribute to academic achievement. We will now discuss specific positive antecedents that significantly influence academic achievement. In their research, Li et al. (2024) expressed that self-efficacy and motivation are the precursors to academic achievement. Their study results indicate that the higher the self-efficacy and motivation, the higher the academic achievement.

This factor plays a crucial role in academic achievement. However, other factors include self-regulation, attitude towards the course or subject, and positive attitude towards the study (Kocak et al., 2021). Of all these factors, self-regulation becomes a key element in achieving academic success. Thus, self-regulated students are driven by a purposive need to enhance their academic performance by realigning their processes, strategies, and responses in their study behavior (Zimmerman & Schunk, 2013).

i. School Environment

While self-efficacy is one indicator of students' academic achievement, the school environment also plays a crucial role in enhancing academic performance and achievement. The school is pivotal in ensuring students' safety and security; without this, no student can feel at ease in the learning environment. In this context, the school must formally establish an anti-bullying and ragging committee to address deviant behavior among students, ensuring that such actions do not threaten the majority of students in the school.

The schools must assure students and parents that there is a conducive atmosphere for learning both scholastic and co-scholastic subjects, and there must be clear communication between the teachers and the school management. In this way, students are motivated to achieve their academic goals. When students feel positively connected to their schools, their commitment to academic performance increases, and they choose to overcome the obstacles to academic success (Zins et al., 2004).

ii. Teaching Strategies

The teacher's role in teaching strategy is critical and pivotal for making teaching and learning interesting and motivating (Tileston, 2007). The teacher's agility in adjusting the sail of the teaching boat is crucial, as there are different types of students with varied learning styles. Some students are auditory learners, some are visual learners, and some are kinaesthetic learners. While some are fast learners, others may be slow learners. Therefore, students' interest is sustained through a dynamic shift from one need to another, making the teacher versatile and captivating, enhancing the learning experience, and supporting academic achievement. When teachers adopt the role of facilitators, students' motivation levels increase, reflected in their pursuit of higher grades in their studies (Tileston, 2007).

iii. Family Atmosphere

Family is the smallest unit of society and the most important part of a person's life. It is the basic institution through which a child learns to read and write, gradually learning to fit into society. Over the years, psychologists and sociologists have revealed through their empirical data that academic achievement and educational attainment can be predicted and explained by social background and the family's origin. Family composition variables, such as income, stability, and education level, influence students' academic achievement (Clark, 2015).

It has also been demonstrated that students with high academic scores exhibit exceptional talent due to their parents' deep support and input. Poor academic performance and school dropout rates negatively indicate low-income family support systems. Further, Clark also contends that the family's role in a child's academic success in school is mediated by parental support and the interpersonal relationships built among them.

Well-functioning families that can support and guide their children are more likely to succeed in academic achievement and make wise decisions (Comer, 2004). A student's home life is the most powerful learning experience, shaping their entire character and outlook for the rest of their life (Armstrong, 1998). While there may be other factors, we will focus on these key elements that impact a child's academic profile. Thus, the indicators mentioned will suffice to justify the concern of this concept.

iv. Enhancing Academic Achievement

Although academic achievement is not part of a child's development, this factor is crucial in shaping the child's future growth within a holistic framework. When neglected, this area can lead a child toward truant behavior, ultimately resulting in dropping out of the formal education system. A child's other faculties can be nurtured when they have attained a certain level of self-efficacy and self-worth. There are three factors through which a child's academic achievement can be enhanced and developed to a desired level.

v. Child's Aptitude and Motivation

Thomas Alva Edison has a much-quoted saying: 'Success is 99% perspiration and 1% inspiration.' No high achievement is reserved solely for brilliant students with high

reasoning power. A child's success roadmap depends on genetic aptitude and the systematic planning and execution of study habits, as well as curtailing other factors that disrupt academic output. A child must be motivated and inspired to continuously allocate time for academic activities. We cannot afford to let our children be unprepared to face the world in a mediocre way (Comer et al., 2004). The professional world demands and seeks candidates with clarity of mind while managing their lives effectively and acquiring a degree of self-direction.

vi. Parental Support and Guidance

The family support system is crucial, as the child's emotional health and mental well-being depend on the family's structure. Parents are their children's primary developers and educators (Comer et al., 2004). Therefore, parents must tactfully and diligently guide their children toward holistic growth without overshadowing their heart's desires or suppressing their needs to grow and reach their full potential. Often, parents project their unfulfilled desires onto their children, which can backfire and create unhealthy relationships between them. In the words of Robinson and Aroninca (2019),

Children usually know when they have worked hard to do something well and if they're proud of it. Without standards or apparent room for improvement, self-esteem can meld into self-indulgence. [Therefore], it is important to cultivate children's self-esteem. It is just important not to overdo it. It means taking an active role in their moral education, setting boundaries, and helping them learn to make decisions (p.40).

vii. School Academic Feedback and Mentoring System

The school systematically conducts formative assessments and collects all the scores. After a couple of months, teachers meet with the parents to discuss the overall performance of the students, not only in scholastic subjects but also in other areas of life, as far as the holistic development of a child is concerned. Thus, there is a dialogue regarding the child, in which both parties are interested. Parents and teachers can play a crucial role in molding a child to accelerate and sustain a passion for learning and develop critical skills, apart from academic skills, as this will significantly enhance the overall academic profile of the students (Wagner & Dintersmith, 2015).

Secondly, the class teachers and subject teachers provide a mentoring system that reinforces and motivates students to improve in the next session of the formative test. Teachers can give students feedback based on the school's recorded data from their portfolio system, anecdotal records, and academic progress reports. This is a powerful channel for following up with students individually and enhancing their overall achievement in the school. The school also plays a role in communicating students' unique talents and achievements to parents so they can reinforce and support the development of their child's talents for a more sustainable career plan.

Academic achievement and performance can only be attained through systematic study habits and consistent adherence. When students develop their study habits scientifically and practice them daily, success reflects the long hours invested. Thus, correctly understanding and applying study habits becomes essential for students' academic success and career planning. Therefore, discussing study habits is now timely.

1.1.8. Study Habit

Any success depends on consistency, discipline, and hard work emerging from habit formation, which is also true for academic success and achievement. The habit formation provides the necessary tools to make success possible and sustainable. Motivation and willpower are often seen as the key factors in achieving success. However, they cannot be relied upon for consistency, and it is here that we rely on the power of good habit formation, which is why habits are so powerful. Once formed and becomes second nature, it operates spontaneously and reaches the desired height (Musa,2024).

A study habit is a well-planned and deliberate action of study that has led students to understand a given subject and pass the examination consistently. Study habits determine students' academic achievement. Study habits and academic achievement are related. Better study habits lead to better academic achievement (Capuno et al., 2019).

In the words of Mercer (2025),

‘Study habits is a comprehensive guide designed to equip students with the essential skills needed for academic success.’

The Britannica Encyclopedia defines study habits as:

Consistent learning behaviors encompass various approaches like time management, note-taking, concentration, and exam preparation. These habits, developed through repetition and reinforcement, are consistent ways of learning and can be described as effective or ineffective depending on their impact on learning. Studying habits are the routines and strategies a student uses to learn and retain information (2025).

Study habits are primary blocks in letting students achieve high academic grades and achievement. It acts as a propelling force that leads towards the pillar of success. Therefore, the relevance and importance of this systematic study habit cannot be ignored nor set aside totally depending on the head wit and motivation alone. When a positive habit is formed, it becomes a hinge on which other things can be accomplished easily (Clear, 2018).

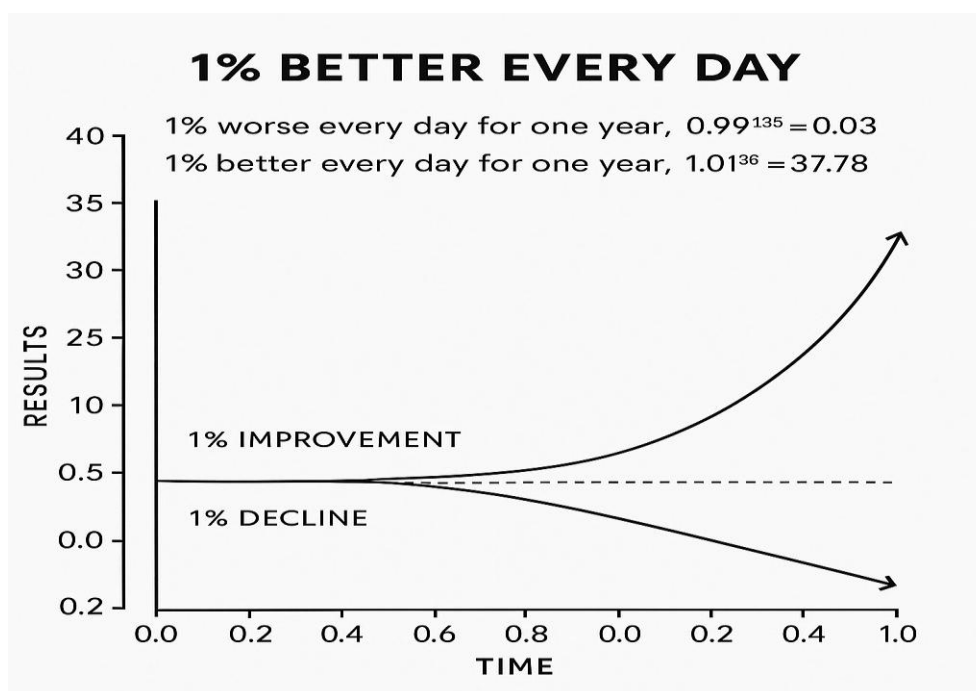
1.1.8.1.Importance Of Habit Formation

Bruce Lee, a legendary Kung Fu master, once said to a journalist, ‘I am not afraid of the one who knows a thousand steps of fighting, but I am afraid of the one who practices one step a thousand times.’ So, not strength and techniques alone, but consistency ultimately triumphs. There is a very insightful thought from the Roman poet Publius Ovidius Naso (43BCE – 18CE) who speaks on consistency and persistence: ‘dripping water hollows out stone, not through force, but through persistence.’ James Clear (2018), the author of *Atomic Habits*, articulates explicitly the importance of tiny habits that can become compound interest. He says:

Habits are like the atoms of our lives. Each one is a fundamental unit that contributes to your overall improvement. At first, these tiny routines seem insignificant, but soon they build on each other and fuel bigger wins that multiply to a degree far outweighing the cost of their initial investment. They are both small and mighty. This is the meaning of the phrase *atomic habit* – a regular practice or routine that is not only small and easy to do, but also the source of incredible power; a component of the system of compound growth. (p.27)

He graphically represents this idea as follows:

Figure 1.4: 1% Progression Every Day



Source: Clear, 2018; PNG file generated from ChatGPT, 2025

This graph depicts the trajectory improvement of small habits that we practice every day. Thirty minutes of study every day in mastering one topic can bring much compound knowledge at the end of the academic year. One percent better every day brings 37.78% at the end of the 365 days. How much more will this strategy be applicable and beneficial in academic achievement and other holistic development?

However, procrastination is one of the most significant blocks in this linear progression. Often, things do not come up at the expected level because of procrastination and pressuring our minds to study at the last moment. Therefore, if academic progression and other areas of life need to improve, we need to tackle the problem of procrastination.

1.1.8.2.Procrastination

Procrastination is one of the negative factors that destabilise the whole process of achieving our dreams and goals, whether short-term or long-term. Procrastination comes from the Latin root verb, *procrastinare*, meaning “to put off till tomorrow.” For the procrastinator, avoiding the responsibility and leaving it to do at the last moment becomes a way of life (Combs, 2011). This is also one of the

contentious issues in the family conflict, as the parental expectations are not met due to the children's procrastination.

As humans, there is a deep psychological need that influences procrastination, which is the innate behaviour of human beings to avoid pain and indulge in pleasure that tantalizes our vital senses (Gelperin, 2017). In the context of achievement and goal pursuit, we must educate our children to delay gratification for the greater good that is coming soon. Scott Peck (1990), a celebrated psychologist and psychiatrist, in his book *The Road Less Travelled*, opines:

Delaying gratification is a process of scheduling the pain and pleasure of life in such a way as to enhance the pleasure and experience the pain first and get it over with. It is the only decent way to live (p.7).

Arguing further on the need for a disciplined life, Dr. Peck reiterates:

While many have a well-developed capacity to delay gratification, some fifteen- or sixteen-year-olds seem to have hardly developed this capacity; indeed, some seem to lack the capacity entirely. These are the problem students. Despite [] better intelligence, their grades are poor simply because they do not work. They skip classes or school entirely on the whim of the moment (p.8).

It is evident that those who put things off until another day and refrain from doing so go on until they cannot postpone anymore and remain in the cauldron of the procrastination web (Knaus, 2016).

1.1.8.3. Dealing with Procrastination

Aristotle says, “Man is by nature a social animal.” We all want to be a part of a family, tribe, region, school, church, etc., to find our lives and express them more meaningfully. In this pursuit, those who bond with others enjoy greater opportunity and better access to available resources. One of the deepest needs of human desire is to belong (Clear, 2018).

The influence of family, close relationships, and popular culture plays a significant role in our lives. This is especially true for youngsters seeking role models; therefore, the family circle can help break the vicious cycle of procrastination.

However, the Pomodoro Technique is prescribed here to address the issue of procrastination. In 1980, Francesco Cirillo developed a method to assist procrastinators in accomplishing tasks at a manageable pace and in a practical manner (Oakley et al., 2018). Below are the steps of the Pomodoro Technique to overcome procrastination.

- a. **Shutting off all Distraction:** This step involves putting off all the external forces that can distract us from our work and lead us to procrastinate. They are mass media, social networks, and social obligations for a designated time. This will reinforce the task's achievable target and help the person in question to be on track for the task ahead.
- b. **Twenty-Five Minutes Module:** In this step, the task is performed for 25 minutes. This can be a study lesson within 25 minutes. In this given time limit, a lesson is studied periodically, not getting obsessed with the end, but getting into the system of doing or studying it for twenty-five minutes.
- c. **Reward Yourself:** After performing a task for 25 minutes, reward yourself with a biscuit, prepare a cup of coffee, serve ice cream, play loud music, your favourite video game, or small exciting video clips, or strum your favourite song. When things are paced within 25 minutes, taking a legitimate break and reward, doing things becomes more attractive and convincing.

The rationale behind the Pomodoro technique is to let the habit of the wheel move so that the vicious circle of procrastination is broken. Following this small step of doing the work for 25 minutes and then taking a break creates a genuine desire. The desire for a legitimate break reinforces better concentration in the work done. Another tip in overcoming procrastination is “One Day at a Time.”

Table 1.4: One day at a time Capsule to beat Procrastination

PROCRASTINATION	ONE DAY AT A TIME
There is too much to do	Identify what ‘one’ thing I can do today.
I have already wasted much time	That was yesterday. Today I have a new chance
I do not feel like doing anything	Do one thing right now, and tomorrow will take care of itself.
So many tasks to perform	One step, one breath, one task at a time.
Focus on perfection	Focus on progress, focus on the system.
Wondering about the lessons	Start with one unit
Dreaming of doing it	Just do it.
Improving life	Start with a single area that needs attention.
Daydreaming of it	Recall your achievement, and before sleeping, too.

Source: Adopted from Clear (2018), Atomic Habits

Today, we are confronted not by the outside world, but from within, facing the inability to make bold decisions that affect the quality of our lives and choose options that enhance our well-being, leading us toward our greater goals in society. We are intoxicated by instant gratification at our fingertips: instant coffee, instant movies, instant messages, and instant money, etc. This instant gratification has lured us away from our true selves in pursuit of achievements; however, it has become a stumbling block through procrastination. Barnet Bain (2015) in his book, *The Book of Doing and Being: Rediscovering Creativity in Life, Love and Work*, expounds beautiful words to readjust our sails and start with a single step and discipline:

Make it a discipline to feel, see, and sense intensely what you want in your life. Through your intention and attention, you are instructing your subconscious self where and how you want that energy expressed. Creating change requires focus and commitment. As you continue this process, positive change will happen. Some changes might be visible immediately, and some will occur more subtly (p.54).

When a decision is accompanied by discipline and a clear objective for the task at hand, the result is always positive and rewarding. Clearly defined goals and a focus on the process or schedule contribute significantly to completing a task (García & Miralles, 2017). Discipline serves as the link between the goal and the

individual practicing it. Consequently, every step towards this endeavor matters. No step is too small to alter the course and lead us towards a meaningful life and achievement.

We approach life one day at a time, one deed at a time, one unit at a time. Regardless of what is happening around me or attempting to hold me back, I am moving forward today. I will trust the process of progressing, taking one step at a time (Groups, 2018). However, developing a systematic habit of studying becomes essential upon reaching a certain level of discipline in transforming one's life.

1.1.9. Developing Scientific Study Habits

Developing systematic study habits is essential to achieving content mastery of the subject matter. In his book *How to Study*, Hedwig Lewis (1996) provides the FIRST method of scientific study habits for students' development. We now enumerate them for our discussion from the acronym of FIRST, which stands for:

-  **Foreseeing**
-  **Inquiring**
-  **Reacting**
-  **Speaking Out**
-  **Teleprinting**

a. Foreseeing

This technique involves a student planning the study materials and mentally preparing the lessons' overall topic, assessing the difficult and easy topics, and allotting time for each lesson to study. In this step, a student scans the entire lesson and organizes certain strategies to adopt and get the most out of it. This step is necessary and important so that a student is not taken aback when studying a specific topic, but mentally prepares how to approach it and how much time is required to master it. It warms a student to get ready and start the journey peacefully into the land of knowledge, in which he or she desires to explore. One of the practical ways is to form a study schedule. This helps students to plan out systematically and foresee what

they want to study immediately. Thus, following a study schedule reaches the maxim, achieve more with less effort (Clear, 2018).

b. Inquiring

The second technique in the first study method is inquiring. This means a student actively studies the lessons by raising questions. The questioning technique lets students focus on the lessons and develop a constructive tension with the study materials. It is a GPS guiding into the unknown terrain of the knowledge field. Questions are a great stimulus to learning, for they give a student a sense of direction while studying the lessons. These guiding posts are: what, why, when, how, where, and who. When there is greater engagement in studying, the mind is more active, and the retention of the information acquired is greater than that of a passive learner.

The questioning technique is like having a fishing hook in our hand, placing the hook into the pond of knowledge, and getting knowledge hooked into our mind. Therefore, no lesson should go by without raising the questions: What is it? How is it? When is it? Who is it? Why is it? Where is it? When questions are raised while studying, ideas in lessons come alive and are imprinted in the brain.

c. Reacting:

This technique is one of the most important steps in study habits. Here, a reader reads the text critically and identifies the lesson's objective; if there are any complicated concepts, they check for the meaning and write them down. The lessons are arranged into simple components from the complex concepts. In order to get the point clearer, the reader now writes down in the rough book through visual representation so that it registers in the mind.

The complex concepts are underlined with different colours, preferably yellow or red, which stand out better to the reader. A pictorial representation is made in the notebook, which will help the reader recall and remember better. This way, the reader critically reacts to the text he or she is trying to master. When reading a social science or language textbook, the reader tries to identify facts from assumptions and opinions. This is the guiding map on which a reader keeps track of the development of the study.

d. Speaking Out:

This is one of the most versatile techniques of scientific study habits. In this technique, a student speaks out about whatever he or she has studied. This technique serves as feedback to the student who wants to see how much effort they put into the study process is fruitful. The main reason for speaking out is to help the reader or student receive feedback on the study's progress. Through this process, a student comes to know that he or she does not know or comes to know that he or she has mastered the topic.

When we study everything, it seems clear and bold; however, speaking out and expressing it in our own words, only what is registered can be articulated with sense and meaning. When we cannot articulate clearly and meaningfully, we have not mastered the lesson we studied; therefore, we receive this feedback and address it accordingly. Speaking out reduces the rate of forgetting and helps our minds register the information effectively.

e. Teleprinting:

The word tele comes from the Greek word for distance. We are familiar with the prefix words, telephone and television, which mean distant sound and distant sight. Therefore, teleprinting would now mean distant printing. The study technique applies to registering the information in our minds over a particular duration. Thus, specific techniques are prescribed to make information registration effective in memory. Here, a reader uses mnemonic devices to teleprint the information for days to come:

🧠 **Preparing an Index Card:** In this memory technique, an index card is prepared, and the main points or headings are recorded. Then, after a couple of days, the points are recalled occasionally. The benefit of this technique is that it is easier to elaborate on the contents when the headings are registered in memory. This index card can be carried everywhere, and occasionally, a glance at it can imprint the headings in our memory.

🧠 **Forming Acronym:** Selecting the first word of every heading and making a sensible and meaningful acronym can register lots of information in our memory. For instance, the FIRST study habit is one of such. These letters represent foreseeing, inquiring, reviewing, speaking out, and teleprinting. If these words

are randomly placed, getting registered in our minds will take time. However, the acronym makes it easy and fast to learn this technique.

- 💡 **Reasoning and Logical connection:** This technique is very effective when we have to remember so much information immediately. The content can run on pages. However, when we arrange in the sequence according to the meaning and logical connection, it is easy to remember and imprint it in our memory.
- 💡 **Establishing Relationship:** When the content of the information is loosely connected, it takes time to comprehend and remember. Rote memory can be used to memorise, but it is not lasting; therefore, for the long-term memory association of ideas and their relationships to be established in this way, remembering becomes lasting and can be accessed whenever required. It is easy to recall at least 30 items in the classroom because they are connected. However, the mind takes time to remember any random items that are not connected. Therefore, an association of things works faster for the mind to remember.
- 💡 **Generalization:** This technique involves understanding every concept's principle. It can be mathematics, science, language, or social science. Every subject has a principle behind it; therefore, studying it rationally can help the mind register the information effectively.
- 💡 **Organization:** In this method, a student reorganizes the teacher's notes if they are not coherently connected and logically sequenced. Therefore, one idea should be expressed in a single paragraph, allowing multiple ideas to be remembered if they are systematically arranged accordingly. This way, students can organize information based on sequence and paragraph structure. When information is organized logically, the mind can grasp and register it effectively.

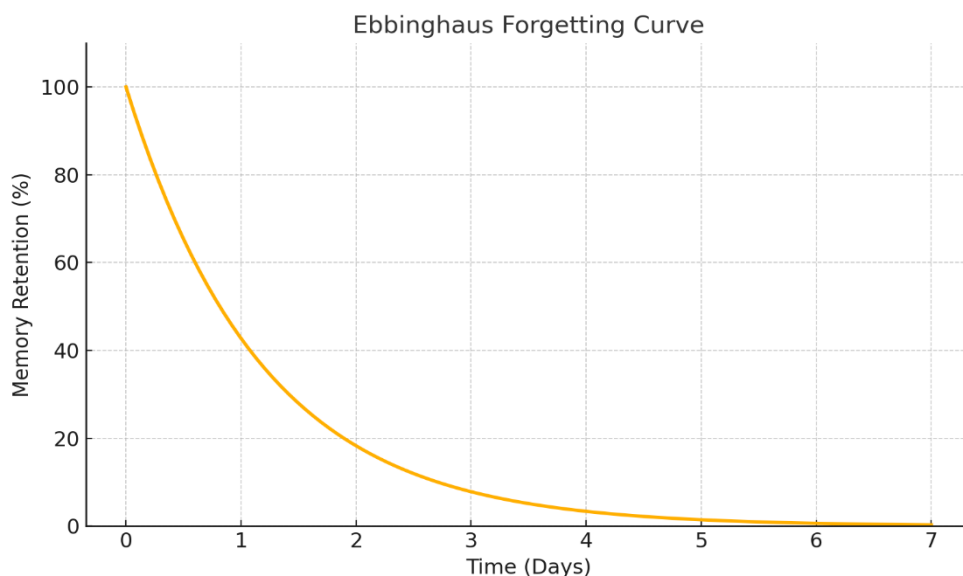
Sing et al. (2025) found a positive correlation between exercise and improved cognitive activity and memory function. What is striking about their research is that low to moderate intensity exercise provides maximum benefits for memory function, also showing improvements for students with attention deficit hyperactivity disorder. Therefore, engaging in moderate exercise with physical syncretisation is always advised to enhance memory and retention, which impacts both physical and psychological aspects.

Ebbinghaus (1913), a German psychologist, researched the rate of forgetting and memory, revealing that our memory can fade quickly if we do not try to revive it. These were his findings:

41.8% was forgotten in 20 minutes
55.8% was forgotten in 1 hour
66.3% was forgotten in 1 day
78.9% was forgotten in 1 month

Any information given to our memory leaves a long-lasting imprint; it depends on how often we bring it back to our active consciousness for usage. However, to clarify this idea, the graphical representation of the Ebbinghaus is below.

Figure 1.5: Ebbinghaus Forgetting Curve



Source: Lewis, 1985; PNG image generated from ChatGPT, 2025

As our memory degenerates quickly and fades away, revision is always necessary to keep it fresh. This process will maintain our desired memories intact and ensure they can be retrieved whenever needed. This requires a systematic approach through regular revision of lessons, etc. Many students always share the problem of being unable to revise effectively due to poor concentration. Hence, it is proper that we discuss the

concentration technique for greater efficiency in retaining information and to keep our memory sharp.

1.2.0. Concentration

Today, concentration level has become a big challenge. Before the advent of social media at the palm of our hand, distraction was not as invasive as it is today. To let our kids study well, we must snatch away mobiles and other electronic gadgets filled with glamorous social media content, lest they spend unproductive hours on social media. To counteract these distractions and focus on the study schedules, the following points can be helpful:

- a) **Study Space:** A study space should be insulated from the kitchen, parlour, TV room, and other living rooms. All the media players should be removed from the table, and if a student is a girl, the looking glass and other cosmetic items should be removed from the study table. Only what is to be studied should be kept on the table with the rough book. This will create a perfect ambience in which to concentrate on studies.
- b) **Study Schedule:** A study schedule is always important to get things done. Often, students spend much time wondering what to study and turning pages, and by the time they decide what to study, hardly any minutes are left, and their minds are tired. All the subjects should be planned and time allotted according to the student's difficulty level. When a student follows the study timetable, it guides the student to concentrate better and achieve better results through this practice.
- c) **Internal Distractions:** We are not free from emotional hiccups, which can destroy our peace of mind if we do not tactfully handle them. When strong negative emotions dominate a student's mind, it is difficult to progress in study; therefore, in this type of situation, professional help must be sought so that a child can clear all the internal hurdles. This can tremendously affect a child's mood and distract and disorient them from studying well.

When the emotional issue is resolved, normal internal distraction can be handled with the following technique to draw our mind through sensory activity. Psychologists have revealed that the more senses we use while studying, the greater the reception of the information in the mind. Edgar Dale (1969) is one of the pioneers in this field of experimentation. He opines that the more sensory channels are involved while

learning, the higher the retention and understanding. Therefore, using this principle in studying a rough book or pen and discussing what is studied will capture higher retention and attention. Colour pens are also used to capture visual attention.

1.2.1. Time Management: The effective study habits depend on time management. Most of the time, students do not study, but engage in other things, and when time draws near for the exams, they seriously study and fill their heads with lots of information beyond which the mind can assimilate. Due to poor study habits and a disorganized schedule, high academic performance is not achieved. Any desired output depends on the systematic planning. The effective time management depends on a well-defined objective and goals to attain (Mercer, 2025).

Goal Setting: This is the precursor of any achievement. What do I want to achieve? What do I want to derive from this exercise? These are some of the questions that act as a lamp post in the journey towards achieving the goal. However, to let this happen, we need a specific pragmatic approach that can act as a centrifugal force in attaining the goal. Doran (1981) in his article, ‘There is a SMART Way to Write Management’s Goals and Objectives’, illustrates how management efficiency and maximum output can be achieved by using the **SMART** principle as follows:

Specific: Defined goals must be specific and realistic. They should not be too lofty that they are only a dream, nor should they be too vague, but clear, precise, and practical. In the study habit, I aim to determine which topic I want to achieve. Which content do I want to master at a given time?

Measurable: The goal must be measurable by quantifying how much you can achieve. The study done must be measurable and computable so that you can concretely assess how much you have mastered to a level of satisfaction.

Achievable: Set an achievable goal when studying. Limit what you want to achieve during the specific study time allotted. Certainly, you cannot master the whole chapter, but on a specific problem, theorem, topic, diagram, etc., start from simple to complex, so that, depending upon the complexity of the topic, a strategy should be adopted to address that issue.

Relevant: The study topic must be relevant and connected to the curriculum you are trying to master. Alternatively, it should be connected to the goals you are preparing yourself to achieve. Not simply studying a topic that may not be relevant to your short-term and long-term goals.

Time-bound: Here, the study schedule must be time-bound. Give a limit to a particular topic on which that topic is mastered within a given time limit. For instance, a chapter should be completed within a week, or a specific topic should be covered during a certain study unit. The study unit can comprise 40 minutes each or more or less, depending on a student's mental ability. No topic can be studied randomly if a student wants to master that topic.

1.2.3. Conclusion

Multiple intelligences, study habits, and academic achievement for secondary school students become a need to study as this stage is crucial in establishing and affirming the student's self-efficacy and self-worth. This is important in defining a student's identity and orientation in choosing a career that is suited to them.

Understanding the study habits of the students becomes crucial in guiding them to develop a proper disposition in preparing themselves for making a proper choice in life based on their academic credentials. Therefore, the basis of a good academic achievement is directly proportional to a systematic good study habit. In order to make a correct perspective, it is now important to study various studies done on this topic elsewhere and develop a perspective where it is necessary in assessing the same for the region and particularly Nagaland, where the space is chosen to study.

The review of literature is done on different themes:

- a. Review of studies done on Multiple Intelligence abroad
- b. Review of studies done on Multiple Intelligence in India and Region
- c. Review of Studies on the Application of Multiple intelligence.
- d. Review of Critique of the Multiple Intelligence Theory.
- e. Review of Rebuttal to the Critique on Multiple Intelligence
- f. Review of Studies on Study Habits done in Abroad and India
- g. Review of studies on Academic Achievement done in Abroad
- h. Review of Studies on Academic Achievement done in India.

CHAPTER-II

REVIEW OF LITERATURE

If I have seen further, it is by standing on the shoulders of giants.

Isaac Newton, 1675

2.1. Introduction

Reviewing related literature is a collaborative process that orients the researcher to the main problem. It helps the researcher form an adequate objective and hypothesis for the study and provides a broader perspective on which a researcher should base their study or investigation. No study can be isolated, but new research is developed to corroborate the preceding theories and findings. Therefore, this literature review aims to comprehensively investigate ideas, issues, and themes of past studies related to secondary students' multiple intelligences, study habits, and academic achievement, making the reader feel included and part of a larger educational community.

A literature review involves systematically examining the scholarly works of others to understand the need for research and the research gap in a given area, which builds a foundation for further study (Koul, 2024).

A review of the related literature serves the following purposes (Koul, 2024).

1. It enables one to define the limits of their field and the problem.
2. Knowledge of related literature helps the researcher clearly state the research objective.
3. It helps the researcher to avoid unintentional duplications of well-established findings.
4. Reviewing related literature gives the researcher an understanding of the research path for the study.
5. It also provides an insight into the statistical method through which the validity of results is to be established.
6. The final purpose of the literature review is to know the recommendations of previous researchers listed in their studies for further research.

The present chapter thus addresses the previous research related to multiple intelligences, study habits, and academic achievement of secondary students. The three variants of the related literature review are in order.

2.2. Classification Of the Related Literature Reviewed

1. Studies Related to Multiple Intelligences Done Abroad.
2. Studies Related to The Application of Multiple Intelligence
3. Studies Related to Multiple Intelligences Done in India
4. Studies Related to Critical Work on Multiple Intelligence
5. Studies Related to Howard Gardner's Rebuttal on The Critical Work of Multiple Intelligences.
6. Studies Related to Study Habits Done Abroad.
7. Studies Related to Study Habits Done in India
8. Studied Related to Academic Achievement Done Abroad
9. Studies Related to Academic Achievement Done in India
10. Research Gap and Beyond.

2.3. Studies Related to Multiple Intelligence Done Abroad.

Pasandi et al. (2025) investigate the application of Gardner's multiple intelligence theory in the "*Al-Arabiyya lil-'Aalim* " series, which is an authoritative source for teaching Arabic. It has been discovered that physical intelligence is the least applied in the language proficiency teaching of Arabic. Of five volumes, the third volume has the highest frequency of using multiple intelligences, and the fifth volume has the least application. The logico-linguistic intelligences are the highest multiple intelligences employed in teaching the Arabic language. This implies that the authors have tried to enhance the reasoning and comprehension abilities of learners of the Arabic language.

Walela (2024) affirms that students respond positively when teachers apply dual intelligence in their classroom interactions. When teachers activate their dominant intelligence, students become more alive, motivated, and engaged in what they teach. When students are allowed to learn in a way that suits their intelligence, they retain information better and take a keen interest in their lessons. The researcher confirms that when students have a space to be themselves, they increase their self-confidence

and express themselves better. The shy students from the center can shine in their learning and other related learning activities. Hence, students' responses increase in the classroom upon applying dual intelligence in the curriculum instruction.

Macalangcom and Guillena (2024) explore the connection between multiple intelligences and academic achievement among junior high school students at Al Hamlan National School. Based on their findings, the researchers concluded that the teaching styles employed by teachers were generally perceived favorably by the respondents in different instructional activities. Linguistic and interpersonal intelligence were the dominant intelligences among the intelligence profiles. The students' divergent learning needs necessitate the incorporation of MI in the learning process.

Murtafiah et al. (2024) have expressed that the outcome of applying the principles of Multiple Intelligence in students' differentiated contexts is the effectiveness of designing educational experiences to meet the learning needs of the students. The researchers reinforce that when MI is integrated with the teaching-learning process, there is a positive reception of learning, improving academic performance. Further, they reiterated that by adapting to the student's cognitive preferences, interests, and learning styles, educators can create a conducive atmosphere of higher teaching-learning outcomes.

Doblon (2023), in his thesis, shows that senior students exhibit all intelligence to a great extent. His hypothesis states that no significant relationship exists between the students' multiple intelligence and academic achievement. The Pearson Correlation test of this hypothesis reveals a significant correlation between the students' multiple intelligence and their academic achievement in science. The coefficient result of the test indicates the weight of the relationship. All eight multiple intelligences indicate a weak and moderate relationship with achievement in science. A moderately strong relationship exists only in mathematical-logical intelligence and academic achievement when $r=.42$ and $p<0.05$. In short, the researcher recommends the integration of multiple intelligences to stimulate and nurture learning effectively.

Hasanuddin et al. (2022) studied the average score of learning styles with multiple intelligences among boys and girls. Their research found that two types of intelligence, natural and existential, do not have many significant differences between men and women. However, for the other seven types of intelligence, there is an essential difference between men and women. The researchers indicated no significant difference between men and women in learning styles such as collaboration, competition, and participation.

Al-Qatawneh et al. (2021) surveyed the content of a seventeenth-grade language textbook with multiple intelligences. The authors discovered that linguistic intelligence has the highest mean score in the Arabic language textbook. The second dominant intelligence in the textbook content is visual, as students need the mental and graphical ability to visualize things and ideas that will make sense of the knowledge they are acquiring. Interpersonal intelligence comes in third place as the textbook activity is centered on the activity with the teacher and the students. The study also reveals the average knowledge of Arabic language instructors on the insights of multiple intelligence on language teaching modules.

Yavich and Rotnitsky (2020) investigated the relationship between academic achievement and multiple intelligence among middle school students. Their findings revealed that 80.9 % of the students displayed logical intelligence as their dominant mean score. They also examined the relationship between the dominant intelligence and the student's performance and found that most students have two or three as their dominant intelligence. The researchers concluded that logical-mathematical intelligence is the dominant intelligence among the students and can even predict the students' success in school.

Winarti et al. (2019) studied the effect of applying multiple intelligences in students' learning strategies. The study emphasized that learning strategies, both traditional and nontraditional, have a student's learning development skills. The t-test result shows a difference in outcome regarding the controlled and non-controlled groups. The research reveals a positive relationship between students' learning outcomes and MI development. In short, the researchers, corroborating with other

Şener and Çokçalışkan (2018) compiled the scores of multiple intelligences and learning styles of the students. The study result indicates that naturalistic, visual, and kinaesthetic intelligence scored the highest. According to the authors, the participants are from rural backgrounds and inclined toward natural settings. The learning styles also indicate such atmospheres with a lot of activity and physical mobility. Regarding gender multiple intelligence preference, there is not much significant difference except that female students have higher linguistic intelligence. The study also showed the positive relationship of multiple intelligences with the learning styles of both genders.

Posada et al. (2017) discuss Gardner's theory of intelligence, which suggests that individuals possess various forms of intelligence, including linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence. The authors argue in favor of applying multiple intelligence against the traditional form of learning, which favors linguistic and logical intelligence. They also highlight the relevance of innovative education in MI.

Dolati and Tahriri (2017), in their work, emphasize the importance of recognizing and catering to different types of intelligence to enhance learning outcomes and student engagement. The writer provides an overview of Gardner's view of intelligence and insists that intelligence is not a singular entity but a collection of various cognitive abilities. Gardner identified eight distinct intelligences: linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, and naturalistic. According to them, these intelligences can create a more inclusive and effective learning environment.

Alas and Erisen (2016) elucidate that those students who enrolled in an undergraduate program solely based on their linguistic ability and interest had linguistic intelligence as their dominant intelligence. In contrast, those in an undergraduate program exclusively based on their mathematical aptitude had mathematical and logical intelligence as their most dominant intelligence. At the university, students who are strong in those areas have multiple intelligence profiles matching their careers.

Hong et al. (2014) examine the impact of using a white interactive board on students. They explicitly consider the concept of multiple intelligences. The study reveals that

a whiteboard interactive approach improves student learning outcomes. Students' engagement and achievement were significantly higher when using interactive whiteboards than traditional teaching methods. The study also found that students' preferred learning style impacted their learning outcomes.

Mullican (2012) aimed to determine whether the books incorporated activities that addressed the different bits of intelligence, a content analysis of the annotated teachers' editions of the history textbooks used at Fox High School. The study involved examining the tasks and activities provided in the textbooks' annotations to identify the presence of MI tasks. The study's findings reveal that the annotated teachers' edition of the United States history textbooks at Fox High School incorporated limited MI tasks.

Booth and O'Brien (2008) argue that when tapped into their preferred intelligence, children can have an open conversation with their teachers or counsellor, thereby bringing their subconsciousness into the present for therapeutic healing. Children come with their cultural experiences, and they incorporate Gardner's definition of multiple intelligence, a by-product of biopsychological and cultural experiences that constitute intelligence. They use every dominant intelligence of the students in the counselling process. Using multiple intelligence modalities, the teacher creates a concrete step enabling children to pour out their inner world using appropriate and secure intelligence. Through this process, they opined that children become aware and express their emotions in an acceptable manner that brings healing.

Campbell and Campbell (1999) explore the concept of multiple intelligences and its impact on student achievement. The authors present success stories from six schools that have implemented the multiple intelligences theory in their educational practices. The book emphasizes the theory of multiple intelligences, which Howard Gardner developed. They discuss how these schools have integrated the various intelligences theory into their curriculum and instructional strategies. To develop a meaningful learning experience in the classroom, the authors put Gardner's multiple intelligences into practice, and it all makes a massive difference in the class.

2.4. Studies Related to the Application of Multiple Intelligence

Nuo Duarte (2024) analyses the effect of the didactic-pedagogical technique on the teaching of MI applied history. She boldly states that students' motivation to learn has improved tremendously. When students can work to their full potential, their academic performance is better.

When MI is integrated into history teaching, students realize faster what the learning outcome is expected of them. This enhances the socio-affective aspect, expressed through responsibility, a high level of motivation, and a change in attitude for better learning.

Gebremeskel et al. (2024) examine the impact of multiple intelligence-based reading and learning abilities on graduate students. They opined that those students' comprehension and reading skills have tremendously improved in treating various intelligences in their learning system. This is quasi-experimental research, and their findings indicate that those students without the treatment of multiple intelligence techniques were scoreless in comprehension and reading language skills. The researchers emphasize that applying multiple intelligences improves students' ability to retain information, guess new words, understand language references, infer meaning from the context of lessons, etc. They argue that MI should not be limited to secondary or primary students alone but should be extensively applied to higher education as it bears more benefits when applied to the students.

Ahmadia et al. (2023) studied the role of management in tax accounting using insights from multiple intelligences. They have highlighted that accountant with higher verbal, interpersonal, and mathematical intelligence can communicate more fluently and understand the emotions of other clients, thereby making financial dealings more intelligent and outgoing. The study finds that multiple intelligence theory can guide the organization by recognizing the individual's unique abilities and talents, making the organization achieve its goal. In this way, the employee's potential is realized when they can optimize their service for the clients.

Yidana et al. (2022) explore the effect of applying multiple intelligences in teaching Economics to senior high school students. The result indicates that the impact of

teaching economics depends on teachers' experience in incorporating insights into teaching. There is a significant difference in economics teacher's use of multiple intelligence approaches to teaching experience. This study also indicates that the effectiveness of the multiple intelligence approach in teaching economics depends on the experience level and how well a teacher applies insights into the teaching process. It was found that teachers in economics mainly apply interpersonal intelligence. The teachers rarely used musical and natural intelligence.

Milić and Simeunovic (2020) examine the concordance between assessments of giftedness made by teachers, parents, and peers and self-assessment using the theory of multiple intelligences. The researchers investigate how different individuals involved in the educational process perceive giftedness in students. Using multiple intelligences, they specifically looked at the perspectives of teachers, parents, peers, and students. Multiple intelligences theory, proposed by Howard Gardner, suggests that intelligence encompasses various abilities beyond traditional measures such as IQ. The approach identifies different types of intelligence, including linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence.

O'Brien and Burnett (2020) integrate Gardner's eight multiple intelligences in the play session for the therapeutic counselling process. In all the stages of counselling, they have inculcated the insights of different intelligences. Linguistic intelligence is reinforced for students with language abilities, and logical intelligence is used for students with strong abstract reasoning. However, for students with high physical mobility, the interpersonal, sports, and games approach breaks down the student's inner world. Hence, the authors justify the relevance of using multiple intelligences in awakening their clients' counselling process by adapting the play method.

Rohaniyah, J. (2017) highlights the practical application of MI in the teaching-learning process, and the result is poignantly striking. Through the application of MI in the teaching-learning process, the students develop a keen interest in the concept, increasing their comprehension. She further substantiates that the MI approach helps students develop their natural curiosity and increase their participation through their

excitement. In this way, students develop a positive attitude towards science learning, and there is a high probability that they will acquire high levels of scientific literacy.

Austin (2016) studies all those schools using multiple intelligences theory (SUMIT) in teaching for at least three years. She opines that students become empowered and effective when they take ownership and responsibility. The range of intelligence gives students a positive attitude about themselves, helping them make the right career choices. Hence, Austin suggests that this process enables parents to track their children's progress in their academic profiles.

Hernández et al. (2014) focus on applying Howard Gardner's theory of multiple intelligences to identify high-ability students. They agree with Gardner that intelligence is not a unitary concept but a complex process of different intelligences working together. They explain that traditional methods of identifying high-ability students often rely on measures that focus primarily on linguistic and logical-mathematical abilities, neglecting other forms of intelligence.

Hanajin (2014) affirms that one of the significant contributions of the MI project on action research is that it contributes to the learner's self-value and self-worth. She asserts that the mediating effect of multiple intelligences is that it can prioritize the teaching needs of students and bring specific equity to all sections of learners in the school. Thus, the MI theory gives a new epistemological paradigm that raises the issue of how we know what it means to be human, intelligent, and educable. In this way, it reveals the potentially more powerful indirect benefit of demonstrating how the social construction of intelligence limits human potency and development in the learning process.

Hani Morgan (2014) asserts that students tend to comprehend little and lose focus on classroom instruction when their teachers fail to use instructional strategies that match students' learning styles. Differentiated instruction through MI can eliminate this disengagement. The article describes a case involving a child having difficulty learning and shows how differentiated instruction helps students learn effectively. It also describes the theories on which differentiated instruction is based and provides practical strategies teachers can use to implement this teaching method.

Johnson (2007) argues that MI-based activities have helped students to learn in the classroom more interesting, and students show keen interest when they are involved in searching for information. He further reiterates that the MI-based curriculum helps students experience experiential learning by incorporating an array of intelligences, educational mediums, and engaging activities. Through class engagement, students are motivated to study entomologists and be exposed to elements of real life, including insects and animals. Therefore, MI-based class instruction makes learning come alive through real-world connections, revealing and orienting students to deeper understanding.

Willer (1999) applies the insights of MI theory to team performance management. His article contends that businesses can use MI theory to structure employee workshops and training sessions to enhance teamwork, develop human potential, and foster creativity and broader team engagement. Using MI theory in employee training sessions will enable businesses to present learning experiences that enhance learning, creative thinking, and problem-solving abilities.

Lazear (1992) confirms that implementing Multiple intelligences in the teaching-learning process has a progressive impact on students. He suggests that there may be no better way to transform education today than teaching for, with, and about multiple intelligences. He witnesses a dramatic shift in students' and teachers' self-esteem as they discover ways to affirm their unique ways of knowing and learn that they are not "weird" or "strange" just because they do not excel in verbal /linguistic or logical/mathematical intelligence capacities.

2.5. Studies Related to Multiple Intelligence done in India

Khan et al. (2024) study the effect of applying the principles of multiple intelligence theory in teaching the English language. The result reveals classroom interaction among the students when MI is applied in language teaching. Further, they argue that incorporating MI enriches the teaching-learning process and enables learners with skills and intelligence to adapt to the real world of competition and students' integrated development. What is striking in their finding is that students become more active and motivated in their learning process and can relate to their learning environment.

Rathi and Geetha (2024) study investment decision-making and examine the influence of multiple intelligences on it. They raise the question of how various intelligences impact rational and irrational investments. The study's regression analysis reveals that multiple intelligences significantly influence sensible and irrational decision-making processes. Corroborating with similar studies done in other states, especially in Kerala, the researchers conclude that individuals' multiple intelligences impact their investment decisions.

Ray et al. (2023) analyze prospective teachers' multiple intelligences and learning styles. The study indicates a significant difference in multiple intelligences among women and men. Their studies aim to investigate the gender effectiveness among prospective teachers regarding multiple intelligences and learning styles. Their study discovered that verbal-linguistic, logical-mathematical, and bodily-kinesthetic intelligence do not exhibit statistically significant gender differences.

Agrawal and Vardhan (2023) explore the different types of intelligence and learning styles among students and also find the relationship between learning styles and multiple intelligences of students ranging from 17 to 23. Their findings indicate that kinesthetic learning styles correlate with many types of intelligence and are also most preferred. Contrary to their expectation, they find that reading is least related to different kinds of intelligence. They expressed their finding that practical activity and incorporating the social dynamics in the learning game benefit students. The researcher also points out a cross-sectional interaction of different domains of intelligence.

Chetry et al. (2023) elucidate the need for integrating MI principles into the curriculum and pedagogical process so that students develop the skills required to face the 21st century. Agreeing with the NESCO mandate 2030 for innovative pedagogical education for sustainable education, they also emphasized integrating MI insights into the classroom teaching-learning process and developing an alternative for students' assessment. Corroborating with other studies, they also reinforced a multi-disciplinary approach to learning, as this approach has a better outcome regarding students' output in their learning process. This approach is the need of the hour in training students to be holistic, gearing them to be globally competent.

Chetry and Prakash (2022) examine how Gardner's theory of multiple intelligences is essential in achieving the objective of the national education policy of 2020 and developing 21st-century skills in information literacy, problem-solving, critical thinking, etc. These are the main objectives of their study. To evaluate the MI theory's relevance to NEP 2020 in achieving the educational objectives and to understand the MI theory-based pedagogical strategies and teaching approaches in achieving 21st-century skills and educational objectives. In light of the objectives of their studies, the researchers opined that MI theory has enormous potential in terms of pedagogical implications based on NEP 2020. They also inferred from their studies that effective lesson planning through the MI approach caters to the needs of the students in achieving the educational aims envisaged in NEP 2020.

Parasher (2021) compares the scores for multiple intelligences of secondary students of government and private schools. There is a big difference in the scores for multiple intelligences in government and private schools and between boys and girls. The logical-mathematical intelligence score is higher for boys, but for girls, the linguistic intelligence score is higher than for boys. This is the dominant score of multiple intelligences for girls. Hence, the study reveals a significant difference in multiple intelligence scores between government and private schools.

Sahay (2020) studies the relationship between multiple intelligences and demographic variables. The study findings indicate that 94.2% of teachers have a moderate score of multiple intelligences. However, a small sample size of 5.8% of teachers have scored high on multiple intelligence scores. In the teacher competency level score, 41.4% of

teachers scored at a mean competency level. Regarding self-esteem, 45.2% of the sample teachers score high self-esteem. On the other hand, 30.2% of the teacher sample scored very low in self-esteem. This is almost half of the sample size. Corroborating with other studies, Sahay concludes that there is a positive correlation between multiple intelligence, self-esteem, and teacher competency. The higher the score of multiple intelligence, the higher the self-esteem and teacher competency.

Narad and Rani (2019) reveal that multiple intelligences are vital to students' subject-wise academic achievement. Their review lists the effects of multiple intelligences on academic achievement.

1. They summarized Batuluyan (2001) and Ahvan and Pour (2016). They found that logical, visual, kinesthetic, intrapersonal, and natural intelligence positively correlated with academic achievement, but musical intelligence was a negative predictor of students' academic achievement in this research.
2. Concerning Younas et al. (2009) and Abraham (2009), they summarized the findings. They expressed no difference in experimental and control groups by gender, income, and qualification concerning the effectiveness of the Multiple Intelligences model of learning English at secondary levels.

In short, the researchers illustrated that multiple intelligences play a crucial role in improving students' academic achievement and recommended that their approach be integrated into learning systems.

Rostami (2017) studies the principles of the theory of multiple intelligences, investigates its theoretical foundations, and examines its effectiveness in English as a foreign language learning. Her findings reveal that most participants possess high musical intelligence. Linguistic intelligence is another area where respondents achieved high scores. The researcher emphasizes the importance of leveraging this skill to enhance language teaching. The significance of this study is highlighted by the insights of multiple intelligences, which aid teachers in understanding their potential while also recognizing the diverse learning needs of learners, allowing for innovative language learning adaptations.

Jagadeesha (2017) studies multiple intelligences among B.Ed. teacher trainees concerning their adjustment and self-concept. He finds that most B.Ed. teacher trainees

possessed medium to high levels of multiple intelligences, with notable variations across gender and intelligence domains. Musical intelligence shows the lowest levels, while interpersonal and visual-spatial intelligence had no low-level cases. These findings suggest that trainees are generally well-equipped with diverse intelligences, though some domains, such as musical intelligence, may require targeted development. The following points highlight the research results:

- a. Medium levels of intelligence were predominant across all domains and demographic categories.
- b. High levels were more frequent in urban trainees for Bodily-Kinesthetic and Visual-Spatial Intelligences.
- c. Low levels were minimal but notable in specific domains such as Musical and Logical-Mathematical Intelligences, especially among rural trainees.

Tarannum (2016) tries to develop a module based on multiple intelligence for teaching Mathematics. To achieve this, the researcher poses the following questions.

1. Is the Multiple Intelligence Teaching Module practical for improving the achievement in Mathematics of eighth-class students compared to the conventional method?
2. Is the Multiple Intelligence Teaching Module practical for concept retention in Mathematics for eighth-grade students compared to the conventional method?
3. Does the Multiple Intelligence Teaching Module help prevent concept attrition in the Mathematics of Eighth-class students compared to the conventional method?

In light of the above questions, the researcher presents the following findings: The multiple intelligence teaching module is more effective than the conventional teaching method. It improves mathematics learning achievement in class eight. She further reiterates that concepts are retained better when applying the MI teaching module.

Narasgouda (2016) focuses on how emotional and personal attributes impact teaching students' academic performance. The research findings confirm the influence of emotional intelligence on student-teachers' academic achievement. However, it must be noted that the researcher argues that emotional intelligence is not a substitute

for an individual's cognitive abilities; it is only one of the factors on the performance side of the individual.

It identifies the level of emotional intelligence based on gender, age, educational qualification, discipline, location, type of management, and parents' income. The study provided a foundation for exploring the impact of emotional intelligence, self-esteem, and personal effectiveness of student-teachers on their academic achievement. This result will help the institutions create the best ideas and draw suitable plans to increase their students' and teachers' emotional intelligence, self-esteem, and personal effectiveness.

Shaikh et al. (2016) study multiple intelligences differences between girls and boys in classes 8 and 9. Their study shows that boys in 8th grade score high on interpersonal intelligence, whereas girls of the same grade score low on all dimensions of intelligence. In the 9th grade, boys score high on bodily, interpersonal, and musical intelligence. The girls of the same grade scored intrapersonal as the dominant score. It is concluded that there is a significant difference in multiple intelligences among boys and girls in grades 8 and 9. It implies that the mean score of grade 9 is found to be higher than grade 8 and is significant at the 0.01 level.

Francis (2012) investigates the design and delivery of the curriculum to enhance learning outcomes. Her study shows that the multiple intelligence approach of curriculum transaction positively impacts learning. The activities enabled the participants to achieve the revised Bloom's taxonomy educational objectives much better than the traditional approach. The higher-level educational objective of creating knowledge is also achieved at a high level due to the activities that enable students to express their perceptions and understanding better. This study has outlined that the multiple intelligence approach to curriculum transaction positively impacts schools.

Chaudhari (2012) investigates the effectiveness of multiple intelligences-based teaching and non-multiple intelligences-based teaching of some history units for Std. VI. She found that the MI-based teaching method is effective learning in terms of learning achievement. The outcome of the present research has the same effect as the earlier research on the related topic. MI-based teaching was more effective than non-MI-based teaching. This method increased the retention of the students and fascinated

them as well. The present study has revealed that achieving higher-order cognitive and affective skills using a based teaching method is possible. In her findings, the researcher summarized that the instructional material using a based teaching approach positively influences academic achievement.

Nelaturi (2012) investigates the emotional intelligence of heads of secondary schools concerning their leadership behavior and school achievement, and found a significant influence on the emotional intelligence of heads with age. The variables experience, birth order, family size, residence, medium of instruction, and type of management did not influence emotional intelligence. The study also explains that the relationship between emotional intelligence and the leadership behavior of heads is positively and significantly related. The study also highlights that the head's ability to recognize and manage their emotions positively and negatively impacts the decision-making process in the school.

2.6. Critical Works on Multiple Intelligence

MI theory is accepted in education, especially in pedagogical and curriculum instruction. It has affirmed many applications and derived novelty in creative teaching, learning, and meeting the diverse needs of the learners. However, despite all these claims and their impact on the educational field, many critiques from neuroscience and the scientific community have raised many questions on the validity of its claims as objective research of human intelligence. Some authors have raised the issue of the MI concept and its independent claim of intelligence, while others question the epistemological claim of the theory. Here are a few selected writers who have raised their perspectives on the reliability and validity of MIT's claim.

Waterhouse (2023) furiously repudiates Gardner's Multiple Intelligence theory. First, he asserts that intelligence does not function independently from one another. Second, the application of MI in-class teaching strategies has not been studied scientifically, and it cannot prove that intelligence exists. Third, as Gardner has claimed, there is a brain basis for each intelligence; this is difficult to justify because neuroscience research shows that the brain is organized in complex networks and multifunctional.

Therefore, viewing intelligence as a separate entity for each item is appropriate. He further reiterates that having a standard measure for each intelligence is paramount to validating the claims of Gardner's MI theory. When there are no standard measures of intelligence, individual researchers have to develop their own measures. Therefore, Waterhouse opined that the MI findings cannot be synthesized with other findings without an objective measurement.

Ferrero et al. (2021) question the validity and reliability of MIT's methodological steps and do a meta-analysis of the research on the efficacy of MI in education. They report methodological shortcomings and a lack of control over publication bias. When scientific claims fall short of these two criteria, on what basis can MIT be accepted? They also question whether participants and instructors were blind to experimental manipulation, which can question the reliability and validity of the measures employed. Another tenet they raise is that the scientific community does not accept MIT. Cognitive psychologists argue that a general factor or single intelligence controls the whole gamut of human cognitive functions. Unlike MIT, it is not independent of other activities.

Glazard (2015) challenges Howard Gardner's theory of multiple intelligences because his criteria for defining new intelligences are subjective. Gardner's eight intelligence criteria give easy additions like humor, memory, etc, into more intelligence. He further argues that cognitive abilities like mathematical and spatial reasoning are identical, yet Gardner classifies them as distinct intelligences. Glazard also questions the validity of this theory because there is no psychometric rigor or quantitative testing that could determine whether the eight proposed intelligences are genuinely independent of one another. It is more objectionable that Gardner uses the terms intelligence, talent, and ability interchangeably, as they are different concepts altogether.

McGreal (2013) questions Gardner's theory that the eight types of intelligence are mainly independent and that the results for each domain should not be highly correlated. He further argues that many of the tests, mainly those measuring some form of cognitive ability, were highly positively correlated with each other. Therefore, most of the ability tests had positive correlations with general intelligence. The exceptions

were the tests of musical and bodily-kinesthetic intelligence, which are non-cognitive abilities, and one of the tests of intrapersonal intelligence. He concluded that cognitive ability tests were positively correlated with general intelligence because they share a common core of reasoning ability. Hence, there seems to be a general form of reasoning ability applicable across a wide range of abilities, including linguistic, spatial, logical, and naturalistic.

D. Klien (2012) repudiates that it is too broad to help plan curriculum, and as a theory of ability, it presents a static view of students' competence. Arguing on this line of thought, Klien articulates the following flaws in MI theory.

- a. **Conceptual Problems:** Gardner's claim of intelligence as distinct and independent is severely critiqued as, in reality, intelligence always works together. According to Klien, intelligence works as a system, and single intelligence and specific spatial reasoning abilities are mere components of this intelligence. Further, if intelligence is independent, it is difficult to account for either interaction during many human activities, which are, in a way, interrelated and guided by the core reasoning of intellect.
- b. **Empirical Problems:** It is to be expected that if intelligence is independent, then some individuals will excel in two or more domains, but if Gardner fails to show that most achieve excellence in one specific domain, then his claim that intelligence is independent is threatened. Conversely, Gardner does not show that any geniuses excel throughout one of the domains defined by MI theory; instead, each seems to excel in some smaller subset of activities within a domain. Gardner acknowledges that an individual's intelligence results from both nature and nurture.

Jamon F. Peariso (2008) elucidates that Gardner's criterion of separate intelligence shares the same cognitive process. Therefore, there is a problem with labeling intelligence. Gardner does not identify the general intelligence present in every human, and it is a matter of degree. Suppose we have to agree with Gardner in separating intelligence. In that case, we can also label intelligence as humor intelligence, memory intelligence, and spelling intelligence, which is not rational in the realm of human intelligence, however.

John white (2006) is one of the severe critics of the MI theory. He argues that it is not based on empirical data and raises the idea that it is based on his subjective value judgment. According to White, Gardner picks out activities he considers culturally essential, like music, poetry, novel writing, and mathematics, and he categorizes them as intelligence. He questions the scientific validity of such claims when the method has nothing to do with psychological data about individuals' abilities and cultural achievements, which are highly subjective. Here, White raises a fundamental issue of scientific temperament when it cannot be quantified and verified through empirical data.

Waterhouse (2006) reflects that MI theory cannot be taken as a treatment to propose and apply because it has no empirical foundation. He argues that to date, no studies have been published that offer evidence of the validity of MI theory. He vehemently refutes the relevance and applicability of MI theory because it lacks a rationale for the evolutionary process of intelligence.

He contends that the MI theory has no empirical evidence that works on human cognition. What needs to be pointed out in MI theory is that there is insufficient research to promote the theory as valid and scientific. Waterhouse also questions the validity of the claim that a theory based on a synthesis of research requires no empirical validation. This is a severe flaw of the MI theory, which does not support or validate the theory. Therefore, despite their appeal, this theory should not be applied in education, retorts the author.

Visser et al. (2006) write in favor of general intelligence 'g.' They argue that the measures used to test intelligence were based not merely on verbal and logical constructs but on a well-established biological basis. They further stipulate that the traditional intelligence test on verbal content is unlikely to contribute to individual differences. However, the logical content of those tasks is consistent with Gardner's description of multiple intelligences. Their factor analysis reveals that a significant g factor was associated with cognitive abilities- linguistic, logical, spatial, naturalist, and interpersonal- but had a lower association with bodily-kinaesthetic. Their study shows that the diverse tests of cognitive abilities purely indicate a strong association with general intelligence g and nothing specific in nature.

Allix (2000) challenges the MI theory because it is superficial and descriptive without backing up empirical data. In other words, it only describes human cognition without understanding the nuances of human intelligence. The theory lacks the verified data to explain how different dimensions of multiple intelligence work in the human brain. Gardner articulates that the intellectual processes in the brain interact, which also goes against the empiricist claim that a centrifugal force of intelligence is always at play during the cognition process. Therefore, Allix claims that this type of framework relying on subjective data may not explain the complexity of the human mind, an argument the logical empiricists would dismiss as lacking depth and scientific methodology.

Harry Morgan (1992) severely attacks the work of Gardner's theory of multiple intelligence and expounds on the "notion that one's terminal career is directed primarily by one's attributes is to ignore personal and structural variables such as an individual's temperament, curiosity, persistence, risk-taking, and opportunities" (p.5). He contends that to conclude that a child's peculiar type of intelligence led to a particular profession could not be defended. The pair of intelligences that are independent of one another is questioned.

According to Morgan, the interplay of logical and spatial intelligence and linguistic and musical intelligence reveals common characteristics; therefore, it is difficult to differentiate them as separate intelligence entities. Morgan further argues that individual characteristics are not described as abilities, information content, or intelligence; instead, they embody processes typically employed in thinking, problem-solving, and various individual experiences.

2.7. Gardner's Rebuttal to the Critique of Multiple Intelligence Theory

Gardner (2025) muses on adding another dimension of intelligence apart from the eight multiple intelligences recognized as intelligence. After surveying historical human civilization, he ponders whether historical intelligence is like any other intelligence postulated in his magnum opus, Multiple Intelligences Theory. Gardner raises the possibility of adding more to the eightfold of intelligence. However, it is not very particular that more and more lists will come, like philosophical intelligence,

biological intelligence, geographical intelligence, etc. However, he prefers to stick to the building blocks of the original eight intelligences instead.

Gardner (2023) argues that human intellect cannot be adequately measured by a single paper-and-pencil approach. According to him, various forms of intelligence need to be addressed relatively without which is acceptable in that society. In speaking about different forms of intelligence, he clarifies domain and intelligence. Domains consist of knowledge and procedures that constitute a body of knowledge taught in school. Intelligence, on the other hand, is the mind on which learners decipher knowledge. For instance, history is a domain, and a student's ability to comprehend and master it may be called linguistic intelligence, spatial intelligence, etc.

Rousseau (2021) asserts that the primary aim of MI is to broaden the narrow traditional definition of the I-Q concept of intelligence. Reinforcing the theory of MI, she says that humans are endowed with relatively autonomous intelligence that can solve problems according to the cultural milieu. What MI theory is trying to justify is that every individual has at his or her disposal a specific intelligence that can be great or average, and at the same time exhibit strong biopsychological potentials depending upon the socio-cultural setup. This biopsychological potential can be adapted and organized according to the values in which a person grows up.

Gardener (2017) answers some of the critiques and states that intelligence is an outgrowth of accumulating knowledge of the human brain and cultures, not the result of prior definitions of test scores. According to him, intelligence should be examined directly rather than through the lens of linguistics and logic alone. When it is necessary to explore or assess intelligence, it has to be done in a setting that a person is familiar with.

Gardner argues that intelligence is a biological potential that a person can realize to a greater or lesser extent due to the experiential, cultural, and motivational factors that affect a person. On the other hand, a domain is an organized set of activities within a culture characterized by a symbol. For instance, chess, gardening, and physics are all domains of Western culture and are familiar to Western people.

Gardner (2008) asserts that individual aptitudes can be seen as a collection rather than a singular problem-solving faculty that can be measured directly through pen and pencil. He argues further that an individual may not be exceptionally gifted in intelligence due to a particular combination of skills that may not be well accepted. However, assessing the particular combination of skills may make individual skills acceptable and recognized in that given culture, which is essential.

Hence, he concludes, we all have the full range of intelligence that makes us human and cognitive. No two individuals, not even twins, have the same unique and distinguishable intellectual profile. Having strong intelligence in logical reasoning does not always make a person intelligent, and it is not the only virtue of a human person. Instead, we must value and recognize the varied human intelligence, as we are different and have different aptitudes and abilities.

Gardner and Moran (2006) clarify the misconceptions and criticisms of the Multiple intelligence theory and assert that MI theory is based on repeatedly formulated empirical findings from various disciplines and integrated into the present theory. MI has developed through a continuous accumulation of knowledge systematized as a discipline, making it relevant and applicable for further research.

Responding to the traditional IQ test, they argue that MI has been tested for preschool. In their words:

An intelligence-fair assessment means it assesses a particular intelligence in its most natural milieu—for example, bodily-kinaesthetic intelligence through movement activities or interpersonal intelligence through social interaction—rather than through ersatz paper-and-pencil measures (p.230).

The authors comment that they are not against the intelligence test *per se*; they are concerned that it should be unbiased and fair for everyone.

Gardner (1999), in defining his Multiple Intelligence Theory, asserts that just like the physical science backed by empirical data, so is multiple intelligence theory. Any theory that stands ground or falls depends on the plausibility of the result it derives based on many accumulated findings over a long time. Any scientific theory will be accepted or rejected over time depending on its results and its correlation with earlier statements. A theory cannot be rejected in totality because of some minor corrections.

For instance, we cannot reject Jean Piaget's theory of cognitive development just because subsequent researchers have undermined some of its claims. This is the case with the multiple intelligence theory. However, it does not negate the traditional measurement of intelligence. It aims to mobilize people to learn the critical content of individual intelligence and not stigmatize or label people in a domain that does not characterize a person's goodness.

Gardner (1998) asserts that intelligence is a biopsychological potential. Humans have evolved over a long time to be sensitive and adapted to certain kinds of information and environments to behave in a particular way. He argues that intelligence comes from the biological sciences, and the domain is a cultural concept. Every culture features many disciplines, crafts, activities, and so on, in which some members gain expertise in some fields.

All activities in which a person gains skill and expertise are a domain. Both boundaries of domains will change and emerge into a higher complex form depending on the individual's values and cultural practices, asserts Gardner. Intelligence and domain are different concepts. Any intelligence can be applied in many domains, so any domain can involve one or more intelligence, like chess, which draws logical, personal, and spatial intelligence.

Gardner (1983) reiterates that 'g' is probably a blend of linguistic and logical intelligence, with some spatial component featured in specific tests. However, it is equally possible that 'g' is a measure of what is valued in Western testing in a scholastic setting, such as speed of response, flexibility of response, motivation to succeed in tests, and other disparate indices.

MI theory is also intended to critique the concept of 'g' in most psychological writings. According to Gardner, 'g' is simply a statistical entity that accounts for a certain amount of the variance in a battery of tests. Intelligence, thus, is the ability to process certain kinds of information to solve problems or fashion products. In that way, each intelligence has a specific role in solving life issues and not merely the logico-linguistic domains alone.

2.8. Studies Related to Study Habit done Abroad

Aljaffer et al. (2024) investigate the association between study habits and personal factors influencing academic performance. Their findings distinguish two types of academic achievers: high and low achievers. According to their findings, students with high GPA scores are highly motivated to achieve success and self-fulfillment. Corroborating with other studies, they explain that students with motivation rewards from their parents become a driving force to study hard and achieve high grades. The study revealed that students with high GPAs attend the lectures more sincerely than the lower achievers.

Jereb et al. (2023) determine how the COVID-19 pandemic affects students' study habits in Slovenia. The study indicates that the study hours remain the same. However, the timing changes due to the prevalence of COVID-19 norms. Students study more during the daytime and in the afternoon. In the pre-pandemic era, students studied more in the morning and evening. However, students cannot socialize, do group studies, or discuss the aftermath of the pandemic. Students develop different illicit habits of writing in exams. The study also reveals that the motivation level has decreased during the pandemic period, and the level of learning has decreased compared to pre-pandemic, when students could interact with their teachers physically.

Bentil (2023) studies the influence of students' study habits on academic achievement while controlling for the effect of learning styles. The result indicates that one of the primary factors influencing the study and educational achievement is the learning styles. It reinforces study habits and academic achievement among students. The study showed a positive effect on study habits and academic achievement when learning styles are incorporated with them. So, it is not other variables that influence educational achievement; it is the learning styles combined with the study habits of the students.

Svartdal et al. (2022) examine study habits in the context of procrastination and academic efficacy. They explore the idea that students should be given study skills training and advised to plan out strategies accompanied by self-efficacy. In light of

their findings, they argue that academic skills are easy to impart through formal inputs. However, for study skills, self-efficacy needs a different perspective for the students to develop. Though students are aware of study skills, they need an external force to orient them to put them into practice and, at the same time, need self-efficacy to make it happen. Corroborating with the earlier research and findings, they reiterate that self-efficacy needs to be imparted and target-oriented so that students' academic and positive study habits are formed.

Clarke et al. (2021) examine undergraduate and postgraduate students' study habits at Trinity College, Dublin. This study reveals that 98% of the students interviewed use caffeine to stimulate themselves while studying. There is also high usage of cognitive stimulants to enhance their study process. They also argue that COVID-19 has led the students to cultivate this habit in their study culture, as the library facilities are closed down. The study also reveals that the use of alcohol is high among university students. The negative impact of the pandemic has left a muscular imbalance among the students in following their study routines and mental stress.

Walck-Shannon et al. (2020) analyze the impact of study habits on academic performance. The study results highlight that students who attend class and put more effort into their study time significantly impact their academic performance. Corroborating with our practical knowledge, those students who are more distracted during their study hours have lower academic performance and GPA. The study also correlates students' creative and innovative study habits with better academic performance. This result confirms their hypothesis that innovative study habits correlate with higher exam grades. The researchers validate that students who use self-explanation, self-quizzing, and answering problem sets do well in their exams.

Ezeji &Ezeji (2018) investigate social media's effects on students' study habits at Alvan Ikoku Federal College of Education in Owerri. The researchers recognized the increasing prevalence of social media use among students and sought to understand its impact on their academic performance. The study employed a descriptive survey research design and collected data from 300 students using a structured questionnaire. The questionnaire was designed to gather information about the frequency of social media usage, the time spent on social media platforms, and the impact of social media

on students' study habits. However, they question traditional learning approaches and present evidence-based strategies for effective learning.

Magulod. Jr (2018) examines the relationship between learning styles, study habits, and academic performance among Filipino university students enrolled in applied science courses. It also explores the implications of these findings for instructional practices. The author recognizes the importance of understanding students' learning styles and study habits to optimize their academic performance. The study aims to investigate how different learning styles and study habits influence the educational achievement of Filipino university students in applied science courses. To gather data, the researcher distributed questionnaires to a sample of Filipino university students enrolled in applied science courses. The survey included learning styles, study habits, and academic performance questions. Learning styles were assessed using the VARK questionnaire, categorizing students into visual, auditory, read/write, or kinaesthetic learners. Study habits were evaluated based on time management, note-taking, and test preparation.

In the article, Bacon (2017) reiterates that the efficacy of study habits increases when the students are given assignments that orient them to develop their study skills, leading to better mastery of the lessons. This necessitates providing basic training in developing specific study habits that will enhance their academic performance and appreciation of the subject they are learning. Further, by helping the student develop their study skills, the ambiance of the inclusive classroom will be created. This paper also studies how students can change their study skills by adopting various study materials and bringing the techniques of studying and writing for the exam to their knowledge.

Alade and Kuku (2017) begin their article by acknowledging the importance of effective study habits and their role in academic success. They also emphasize the significance of testing as a learning tool and its potential impact on student's study habits and performance. The study seeks to investigate how the frequency of testing influences students' study habits and their achievement in mathematics. The researchers conducted their study among secondary school students in Ogun State, Nigeria, and collected data through surveys and examinations. The study utilized two

groups: the experimental group that underwent frequent testing and the control group that followed the conventional teaching method without regular testing. The students' study habits were assessed using a Study Habits Inventory questionnaire, and their mathematics achievement was evaluated through an examination.

Uju and Paul (2017) acknowledge the significance of study habits in determining students' academic success, particularly in Biology. The study explores how study habits influence students' academic performance in Biology. The researchers surveyed secondary school students in the Federal Capital Territory, Abuja to gather data. The survey included questions related to study habits, such as reading habits, note-taking, review practices, and students' academic performance in Biology.

The study's findings revealed several important insights. Firstly, there was a positive correlation between study habits and academic performance in Biology. This suggests that students with good study habits tend to achieve higher grades. Specifically, factors such as consistent reading, effective note-taking, and regular material review were associated with better academic performance in Biology.

Cerna and Pavliuschenko (2015) focus on international students, specifically those studying in Shanghai, and investigate how their study habits impact their academic success. It seeks to provide insights into the study habits that contribute to better academic performance in this context. The research likely involves collecting data through surveys, questionnaires, or interviews from a sample of international college students in Shanghai. The study examines various study habits, such as time management, organization, note-taking, concentration, and study environment. The authors aim to identify any correlations or associations between study habits and academic performance among international students.

Julius and Evans (2015) examine the relationship between study habits and academic achievement among Spicer Higher Secondary School students in India. The authors acknowledge the importance of study habits in determining students' academic performance. They emphasize that effective study habits are crucial for students to achieve success in their academic pursuits. The study aims to investigate how study habits relate to academic achievement among students in the chosen school. The researchers surveyed students at Spicer Higher Secondary School. The survey included

questions related to study habits and academic achievement. The study habits were assessed based on time management, organization, note-taking, and concentration. Academic achievement was measured using students' grades or marks obtained in their academic subjects.

Brown et al. (2014) explore the science behind effective learning and provide practical strategies for improving education and retention. It gives many standard study techniques, such as rereading and highlighting. The authors explain cognitive psychology and memory to uncover strategies that promote long-term learning processes among students. The writers reiterate that learning is enhanced when encountering challenges requiring effortful thinking and active engagement.

It highlights the importance of regular practice, testing, and connecting with different skills to strengthen memory and improve retrieval. They emphasize the significance of retrieval practice, which involves actively recalling information from memory rather than passively reviewing it. They discuss techniques like flashcards, self-quizzing, and spaced repetition as effective ways to reinforce learning and enhance long-term retention.

Stella Cottrell (2013) gives a comprehensive guide that helps students develop practical study skills and strategies to enhance their learning experience. The book covers many study-related topics and provides practical tips, techniques, and exercises to improve academic performance. Throughout the book, she emphasizes the importance of active learning, critical thinking, and self-reflection. She explores various study techniques such as note-taking, reading effectively, managing time, conducting research, and preparing for exams. It is a valuable resource for students at any level of education who wish to enhance their study habits, academic performance, and overall learning experience. It empowers students with the tools and strategies they need to succeed academically and become lifelong learners.

Nonis and Hudson (2010) aim to examine how the amount of time college students spend studying and their study habits influence their academic performance. The researchers collected data from a sample of college students using an online survey. The study found that study time had a positive correlation with academic performance. In other words, students who spent more time studying tended to have higher grades.

The researchers also identified factors that could impact study time and habits. These factors included the number of credit hours taken, employment status, and involvement in extracurricular activities. They found that students who took more credit hours and had part-time employment tended to have less study time, which could negatively affect their performance.

In their work, **Ozsoyet al. (2009)** argue that metacognitive skills are crucial in effective learning and academic success. The study aims to investigate how metacognition relates to study habits and attitudes in elementary school students. The researchers collected data from elementary school students through surveys and questionnaires. The instruments used in the study included the metacognitive awareness inventory, study habits inventory, and attitudes toward school scale.

These tools helped measure the students' metacognitive awareness, study habits, and attitudes toward school. The findings of the study revealed several significant relationships. Firstly, there was a positive correlation between metacognitive awareness and study habits. This suggests that students with higher metacognitive awareness tend to exhibit more effective study habits. Secondly, a positive correlation was found between metacognitive awareness and attitudes toward school. This indicates that students with better metacognitive skills tend to have more positive attitudes toward school.

Newport (2007) offers practical advice and strategies for college students to achieve excellent academic performance while studying more efficiently. The book challenges the notion that achieving top grades requires excessive studying and sacrificing personal time. Instead, Newport presents unconventional strategies focusing on practical learning techniques and optimizing study habits. Newport emphasizes the importance of time management and prioritization. He guides creating a structured schedule, utilizing productive study blocks, and avoiding procrastination. The book also explores "fixed-schedule productivity," which involves aligning academic work with specific time blocks to maximize efficiency.

2.9.Studies Related to Study Habits done in India

Jolly and Sethi (2024) explore the impact of study habits on college students' academic motivation in their study. These are the questions on which they have explored the impact factor of study habits on academic motivation. To study the relationship between study habits and academic motivation of college students and to study the impact of dimensions of Study Habits on academic motivation of college students. The study results indicate that college students have moderately effective time management and good physical conditions but have poor note-making skills. The Pearson correlation test shows a positive relation between good study habits and academic motivation among college students.

Alex et al. (2024) assess the association between study habits and the academic performance of undergraduate nursing students. This study highlights the importance of effective study strategies, time management, and self-discipline in academic performance. The researcher expressed that nursing students can enhance their understanding of complex subjects, effectively retain information, and excel academically. The findings emphasized the need for educational institutions to provide sufficient resources and guidance to the students to cultivate good study habits for better performance in the nursing field. The chi-square test indicates that 85% of students have good study habits and have a positive relation with academic performance.

Rehman (2024) investigates that students scoring high on IQ tests show little academic anxiety. This implies that academic anxiety scores decrease with increased study habit efficiency. The study also reveals that the coefficient of correlation between academic anxiety and school environment is positive, with a value of 0.47, indicating that a better school environment induces academic anxiety. This is contrary to the other preceding research findings.

Molla and Mandal (2023) investigate the relationship between study habits and academic achievement of secondary students. The study's findings reveal no significant difference in the study habits of secondary students based on gender or location, implying that study habits do not affect school students' locations. The study

also reveals a significant relationship between study habits and academic achievement of secondary students. Corroborating with other studies, they concluded that there is a positive relationship between study habits and academic achievement of secondary students.

Kaur and Sing (2022) explore the connection between study habits and academic achievement of secondary school students in Ludhiana. The study examines the relationship between study habits and academic performance of school children. It also investigates gender differences in study habits and academic performance and the differences between study habits and academic achievement. The study confirms a significant difference between study habits and academic achievement. Female students have better-organized study habits, leading to better academic achievement.

Mookkiah et al. (2022) investigate how good study habits impact Academic Performance in English of higher secondary school students in the Devakottai district of Tamil Nadu. This study aims to determine the relationship between Study Habits and Achievement in English and the relationship between Study Habits and Achievement in English at higher secondary schools concerning Categorical variables. The findings reveal that students' study habits are at the maximum category, and their English learning achievement is also at a higher level. The study also shows a positive relation between study habits and English learning achievement. This implies that good achievement depends on the students' good study habits.

Mishra (2022) investigates students' attitudes toward their study habits. The findings reveal that there is no significant difference in study habits and attitudes in terms of gender. The null hypothesis states no significant difference in study habits and attitudes. The t-test result shows no significant difference; hence, the null hypothesis is accepted. The study also shows that parental occupation and income do not significantly influence the study habits of the students and their attitudes as well. It is noteworthy that caste plays a significant role in study habits. According to the researcher, other variables are not very seriously connected with good study habits except a conducive atmosphere for study habits.

Bongale et al. (2021b) survey factors affecting students' learning culture and the time taken to prepare their lessons. The data analysis shows that private students spend more time on their lessons during the pandemic. On the other hand, international institutes spend around 7 hours of online and offline study during the pandemic. It is also noted that the international institute provides better assistance of learning infrastructure, so students spend more time studying and producing better results. The study also compares the self-efficacy level of medical students and others during the pandemic and found that medical students have higher confidence levels than their counterparts in academic performance.

Pathak (2020) examines the level of academic stress among adolescents regarding their study habits. His study discovers a positive relationship between study habits, stress, and academic performance. Those who systematically study have low exam stress levels, and they perform better in their exams. Unlike the other results on the stress level of genders, the study results reveal no significant difference in stress among boys and girls. Due to the high demands of academic programmes and curricular activities, the students' stress levels are going high, the researcher claims.

Madhukar (2019) studies the visually impaired students' study habits and scholastic achievement. The study reveals that good study habits yield better academic grades, especially in scholastic subjects. The researcher indicates that rural students have better study habits, which leads to better achievement in scholastic areas. Regarding gender, boys seem to have been doing better in their study habits than girls. When it comes to the location of the study environment, government students seem to be doing better than privately run NGOs and Telugu medium schools. However, English school-medium students, too, seem to be doing better in their study habits than other schools. The study also shows that study habits are influenced by the high literacy of the student's parents learning to improve academic achievement.

Jena and Basu (2018) explore the importance of concentrated, distraction-free work and provide strategies for achieving deep productivity and success in today's fast-paced and distraction-filled world. The book's core concept is "deep work," which refers to the ability to focus without distractions on cognitively demanding tasks. Newport argues that deep work is becoming increasingly rare in our modern society,

where constant connectivity and shallow work prevail. Newport highlights the value of deep work in achieving meaningful results and advancing one's career. He emphasizes that deep work is not only about working longer hours but rather about working with intensity and concentration.

Dev, S. (2018) does a cross-cultural study on the factors that influence students' academic performance apart from the genetic makeup of intelligence. The researcher takes two countries, India (Kerela) and UAE, as her indices in studying different factors paving the way for academic achievement. The study results show that both countries have study habits as the primary factor in academic achievement. According to the researcher, both countries have excellent study habits and low procrastination habits. From the result, the investigator concludes that procrastination behavior, stress tolerance, and systematic study habits positively influence students' academic achievements in the UAE and India (Kerala).

Hussian Ch (2006), published in the Bulletin of Education and Research in June 2006, aimed to investigate the effects of guidance services on study attitudes, study habits, and academic achievement of secondary school students. The researchers recognize the importance of guidance services in supporting students' academic success and sought to examine their impact on various aspects of students' study behaviors and outcomes.

The study utilizes a quantitative research approach and collects data from secondary school students. The participants were divided into two groups: an experimental group that received guidance services and a control group that did not receive any guidance services. The researchers administered questionnaires to assess the students' study attitudes and study habits, and also collected data on their academic achievement.

2.1.0. Studies Related to Academic Achievement done Abroad

Kassaw et al. (2024) argue that a positive teacher attitude and encouragement significantly contribute to fostering student efficacy in effective learning. Conversely, negative reactions and attitudes from teachers also impact students' academic achievement and diminish their motivation for educational outcomes. Furthermore, they point out that students' positive perceptions and beliefs in their strength and intelligence have a significant influence on their academic trajectory.

They also highlighted that low academic achievement is associated with stress, mental distress, low self-esteem, and suicidal tendencies. One of the key elements in their research was low self-esteem, leading to poor problem-solving activity and cognitive abilities, thereby reducing learning activities and productive learning outcomes. Less classroom participation could be due to such tendencies the students developed.

Xu et al. (2023) investigate how self-regulated learning impacts academic achievement in hybrid and blended learning modes. Other studies also show that self-regulated learning at the metacognitive level enhances learning and results in higher exam grades. This implies that metacognitive prompts produce higher academic performance in knowledge transfer; however, there is no significant difference in recall and comprehension. The study also identified a positive correlation between goal setting and performance. It also explains that self-regulated learning is primarily prevalent in formal educational systems through a hybrid mode.

Tong et al. (2022) investigate the effect of blended learning on students' academic performance. The study results indicate that blended learning helps students be more engaged and interactive with their peers and teachers and enhances their communication skills. It also helps students improve their ability to work individually and simultaneously seek assistance from their peer groups and teachers. In this way, learning becomes more effective when students are engaged in acquiring their subject knowledge.

They reiterate that the blended mode increases the capacity for independent thought and leads to creative problem-solving skills. The research answers the questions, indicating that the blend mode has increased students' cognitive

levels, especially mathematical-logical intelligence, compared to the face-to-face mode.

Kaymak et al. (2021) study the effect of cooperative learning on class 8 students' academic performance. The findings indicate that the control group with the cooperative learning techniques scored higher on average than the traditional learning method. The higher score of the control group is due to the feedback received from the peers and the teachers through cooperative learning. The result also indicates no significant difference between boys and girls regarding mathematical scores. Cooperative learning has been incorporated into teaching mathematics, and the result is encouraging, proving a positive relationship between the two.

Tikhomirova et al. (2020) study the relationship between cognitive abilities and academic achievement in a student's academic profile. They found moderate correlations between cognitive aspects, which predict academic success. In general, this has been found throughout students' academic profiles as the primary indicator for students' success, especially the correlation between cognitive characteristics and academic achievement. It is concluded that in the student's academic history, cognitive characteristics dominate in determining the student's academic performance. The study indicates a positive relationship. However, this relationship is relatively weak.

Jafari et al. (2019) highlight that the status of study habits in male and female students did not differ significantly in terms of study skills and habits. They reveal that good study habits are a predictor of academic achievement. There is a strong positive correlation between good study habits and academic achievement. Considering this inter-relationship between study habits and academic achievement, they suggested that study habits can be taught and rectified as faulty ones, which will go a long way in producing good results, especially in university studies. As in their studies, and corroborating with other research findings, they argued that poor study strategy causes poor academic achievement.

Brück et al. (2019) study the effect of violence on students' academic performance in war-infested areas. They study the impact of the Israel-Palestinian conflict on various education outcomes for Palestinian and high school students in the West Bank during

the Second Intifada. The test results show a negative correlation between violent conflict and students' academic achievement. There is no evidence that the conflict affects boys and girls in terms of their academic performance. This implies that the mechanism behind the impact of conflict on educational achievement is gender-neutral.

On the other hand, conflict reduces the probability of passing the final exam, and students exposed to violence just before the exams have a long-term negative impact on their psychological well-being. The researchers opined that conflict may significantly hinder human capital accumulation and economic development, not necessarily academic achievement alone.

Lei et al. (2018) study the relationship between student engagement and academic achievement. Engagements include behaviors, emotional, and cognitive learning. The study indicates that the more students are engaged, the higher their academic achievement. Corroborating with other studies, they assert that the more behavioral engagement is done, the more successful academic performance is. This enthruses students to attend school with greater participation and a desire to learn and take responsibility. They further emphasized that behavioural engagement is the most productive in student engagement, leading to academic achievement. They argue that this behavioral engagement improves individual personality recognition and satisfaction.

Wilson and Buttrick (2016) argue that the power of a social psychological approach lies in its ability to create self-reinforcing change. Continuing on this line of thought, the authors clarify that convincing students that their academic difficulties are not due to a lack of intelligence but instead to adjustment difficulties that often improve over time can help increase their effort in studies with higher grades and, in the long run, improve their academic achievement.

They have also reviewed the literature on students' self-image and academic achievement, and they opined that the more teachers emphasize performance outcomes, the more students believe that intelligence is a fixed entity. The more students cling to this idea, the less they will improve their standardized test achievement. They conclude, nonetheless, that children's mindsets about intelligence

develop at an early age and are modeled by their teachers through classroom instructional interactions.

Baunce et al. (2016) examine six hundred and eight undergraduates' consumer attitudes and behaviors concerning academic achievement. The analysis reveals that consumer orientation mediated the traditional relationship between learner identity, goal, and academic performance and explains that a higher consumer orientation is associated with lower academic achievement. The following results are deduced:

1. All predictors had a significant direct effect on consumer orientation. Learner identity and grad goals are significant predictors of academic performance. Corroborating with the earlier researcher, Tomlinson (2014), the researcher opined that grade goal was positively associated with consumer orientation. This means a higher grade with a higher consumer orientation.
2. It is found that a higher-grade goal, more fee responsibility, and studying a STEM subject are associated with a higher consumer orientation, leading to lower academic performance.
3. Consumer orientation significantly mediates the relationship between subject and academic performance; studying a STEM subject results in a relationally higher consumer orientation, leading to poorer academic performance.

Hence, the researchers conclude that this finding could have some practical implications. Given the negative relationship between consumer orientation and academic performance, the researcher suggests that university management initiate a dialogue with students about this consumer trend in education and negative academic achievement.

Yaghoob and Hossein (2016). Their investigations are based on two hypotheses: first, there is a statistically significant relationship between multiple intelligences and high school students' academic performance achievement levels, and second, various bits of intelligence predict high school students' academic performance achievement levels. Their findings show a significant positive correlation between perceived verbal-linguistic, logical-mathematical, and musical intelligence and students' academic achievement. The Pearson correlation value shows a moderate correlation. In answer to the second hypothesis, verbal, spatial, and logical intelligence are the best predictors of academic achievement. The investigators justify those multiple intelligences, like

visual-spatial, verbal-linguistic, and interpersonal, could predict academic performance achievement ($p < 0.05$). In contrast, musical intelligence negatively predicted students' performance achievement.

Makarova and Birman (2015) analyse and systematize empirical research findings on acculturation in the school context, focusing on the academic achievement of young people from minority backgrounds. This study addresses the following questions:

1. How are the different acculturation orientations of ethnic minority students regarding cultural identity, attitudes, and behaviors related to their academic achievement?
2. What are the most conducive acculturation orientations for ethnic minority students' psychological and behavioral adjustment in the school context?
3. How are ethnic minority students' psychological and behavioral adjustments related to their academic achievement?
4. How do contextual characteristics influence ethnic minority students' adjustment in the school context?

Corroborating with other studies, the researchers opined that the ethnic minority with a strong ethnic identity were more likely to be successful in school and found to have a positive impact on their performance and grades. Concerning the acculturation orientation and psychological adjustment in the school context, the researchers claimed that those who indicated a level of global self-worth compared themselves negatively to the White standard of beauty.

Ayesha and Khurshid (2013) explore the relationship between multiple intelligences, practical study skills, and academic achievement among university students. The study's primary objectives were to study the relationship between multiple intelligences and practical study skills and to see the impact of various intelligences on academic achievement. They discovered a significant difference between the students of the private and public sectors based on academic achievement.

According to the studies, the private sector was doing better than the public sector. In their comparison of males and females in terms of academic achievement, female students scored better than males. Based on the socioeconomic index, they found that the lower-income group did better in academic achievement than the higher-income group.

Abdi et al. (2013) studied the effects of teaching strategies based on multiple intelligences on students' academic achievement. The group assigned to the experimental group was instructed to apply numerous intelligence insights. Their study found that students who were administered the teaching strategies of multiple intelligences achieved better academic scores than those trained using the traditional approach.

They also further explained that students who were educated through the application of various intelligences have become more successful than the students who were not. They raised this hypothetical question, and their study answered it: Is teaching science with a Strategy based on Multiple Intelligences more effective than traditional science teaching methods? Their results responded positively to this question.

Ahrberg et al. (2012) examine the impact of sleep quality and academic performance. Their study shows that academic performance is linked to sleep quality and stress before an exam. They argue that poor sleep does not necessarily lead to poor grade points, but stress leads to poor exam scores and poor sleep quality. Students with low grades also have high stress and, at the same time, low sleep. The high stress and low sleep quality, in turn, affect the academic output.

Therefore, poor sleep quality does not affect academic output; poor sleep quality is the outcome of a lifestyle pattern of stress. There is also an antecedent in academic achievement; that is, students who remain calm before and during exams perform better in their exams. Hence, sleep quality and stress directly before but not during the exam, the semester, or after the exam are linked with exam performance.

Howie and Pate (2012) take a historical perspective on the science of physical activity and academic achievement before and during the past five years. They asserted that the overall findings remain positive; cognitive function and educational achievement generally increase as physical activity increases. Corroborating the earlier findings, the researchers have shown that neuroelectric activity increases with fitness and academic achievement.

Their five-year historical review revealed that physical activity likely influences multiple pathways, such as physiological, neurological, psychological, and social factors, that lead to improved academic achievement. However, after reviewing

the literature on the relationship between physical activity and educational attainment, the researchers could not make a conclusive statement or establish a negative relation.

Mushtaqh and Khan (2012) explore the factors influencing students' academic performance. In their research, the authors identify the factors contributing to students' success or failure in their educational endeavors. They collect data from a sample of students and analyze it to determine the significant factors affecting academic performance. The study indicates that several factors substantially impacted students' academic performance. These factors included socio-economic background, parental involvement, study habits, motivation, teacher quality, and student-teacher relationship.

Of all the factors, communication, learning facilities, proper guidance, and family stress are the factors that influence student performance positively and negatively. Family stress has the most negative impact on students' academic achievement.

Soares et al. (2008a) point out that the better the learning facilities, the higher the academic achievement among degree students. There is also a different variance in academic achievement regarding gender; however, undergraduate students' study skills and learning strategies are secondary in academic achievement. In their regression analysis, they also found that previous secondary academic earnings were the best predictor of the academic results of their undergraduate studies.

It is not good to study habits or skills that predict, but earlier academic scores predict the outcome of their studies. They also concluded that female students have better academic records and better study organizing skills than male students, and their academic records in their previous records influence the present outcome.

Seipp (1991) highlights that anxiety does not significantly impact students' academic achievement. However, emotional stress does not affect students. According to this study, gender is not the criterion of the anxiety-performance relationship. Their difference in mean score is only 0.03, which is not a significant value to make a statement. The study also reveals that there is a negative relationship between anxiety and poor performance, and vice versa. However, he also cautions that this relationship

is weaker than expected, which could be due to a nonlinear relationship between anxiety and performance.

2.1.1. Studies Related to Academic Achievement done in India

Podiyya et al. (2025) examine the influence of school ambiance on the emotional health and academic achievement of adolescent students in India. This review provides significant evidence that the overall quality of a school's positive environment profoundly influences adolescents' emotional health and better performance in both scholastic and curricular aspects. The study reiterates that a conducive school climate with connectedness and a supportive environment can minimize stress and depression, increasing high self-esteem and achieving higher academic performance.

Onker et al. (2025) study the machine-learning approach to predict students' academic achievement. The primary purpose of this study is to determine the quality of teaching and academic performance of different schools in the Bhopal district of Madhya Pradesh. The study results indicate a high machine learning efficiency in predicting the students' academic performance. With the help of machine learning and various variables, the researcher can justify that including machine learning technology in the academic setup can predict the students' learning outcomes. By retrieving the students' historical academic records, the researcher can predict their achievements using a genetic algorithm and decision tree classifiers.

Singh and Sharma (2024) investigate how e-learning, high-quality education, and effective learning strategies improve the academic performance of B.Ed. Students. The researchers expose a strong correlation between high-input-quality education and academic achievement. The multiple regression and Pearson correlation tests indicate a strong positive correlation between the considered variables and students' academic profiles. The researchers clarify that the quality of education is the most influential factor in the academic achievement of B.Ed. Students. One of the study's goals is to contribute to attaining sustainable education goals, particularly in Bihar, as it is one of the lowest indices on the human development scale.

Thangavel et al. (2024). The study examines the relationship between the role of active and passive procrastination and academic stress and performance. This study examined the reasons secondary school students in Maharashtra gave for their educational and professional objectives. It also tries to assess the relationship between academic anxiety and self-regulated learning. The researchers highlight that academic self-efficacy plays a role in the association between academic stress and procrastination. Their finding reveals that procrastination and academic self-regulation are inversely related, meaning that higher discipline and academic achievement are associated.

Rani et al. (2023) study the relationship between self-concept and academic achievement in secondary students. The study results show a positive relationship between academic achievement and self-concept. When students have a positive self-concept, there is better academic achievement. However, the self-concept among the boys and girls is not significant. Even in the schools, there is no significant difference in self-concept and academic achievement between public and private schools. Hence, the study concludes that the better the positive self-image, the higher the academic achievement, regardless of locality or gender.

Panakaje et al. (2022) focus on studying students' perceptions of the education environment post-Pedagogy times. The study highlights that students have a positive attitude toward online classes and find online instructional modes interesting and more beneficial than the senior groups. Students find online courses interesting, but their effectiveness is less potent than face-to-face instruction. The study shows that online courses are interesting. However, many do not have adequate online facilities to meet their academic requirements. Hence, students expressed that the pandemic has changed the role of teachers from teaching to facilitators, and this role has enabled students to interact more with teachers.

Vikram (2021) investigates parental migration and its effect on children's arithmetic and reading achievement. The study illustrates that boys benefit from their parents' migration programs. The girls, conversely, had lower benefits as the job earnings favored boys. This study indicates that boys are given more resources for their educational expenses, which results in higher academic achievement in arithmetic and

reading. The girls are at a disadvantage, according to the researcher, because households spend less on girls' educational expenses. The study results show that children of migrant parents can read faster than those whose parents do not migrate.

Kavi and Walvekar (2020) study factors affecting the lifestyle of secondary students and their corresponding academic achievement. They compare their results against government and private schools. It was found that affluent parents send their children to the private sector, whereas less affluent people send their children to public schools. The academic results show that those students who regularly attend school do better than the others.

They also affirmed that students do better with a stable economic status. In contrast, students from lower economic status tend to show negative results in their academic performance because of the unmet needs of their academic requirements. Apart from the academic profile, they also surveyed the use of tobacco-related substances and opined that the students from public schools have easier access to such products and, therefore, a higher index of usage of such items.

Dangol and Shrestha (2019) examine secondary students' learning readiness and academic achievement. The study result indicates a weak positive correlation between students' readiness and academic performance. It indicates that the three dimensions of readiness- student, family, and school readiness- contribute to significant academic achievement. There is also a strong correlation between language subjects and academic achievement. This relation, according to the researcher, is due to the student's mother tongue and their preferred subject of study. In corroborating with other studies, they also found that students with high aspirations and ambitions consistently achieve high educational achievements in their letter grades.

Sherafat and Murthy (2016) reveal that students with better study habits have higher academic achievement. There is a positive and progressive correlation between study habits and academic achievement. They compare the results of secondary and senior secondary students and found that secondary students have better results. As stated in the hypothesis, there is a significant difference in study habits and academic achievement among secondary and senior secondary students. They opined that as

students move from secondary to higher secondary, they focus less on their studies, affecting their academic output.

Shoba (2015) elucidates the following findings on the above research topic. In her conclusions, she states that there exists a statistically significant relationship among all the psychological variables, such as behavior deviance, aggression, and depression, and academic achievement. These variables have become major predictors of academic achievement. The results of the study show that behavior deviance, aggression, and depression are significant correlates of academic achievement.

The study also shows that 50% of respondents are at the level of behavior deviance, aggression, and depression, and their academic results are as poor as a 25% level. In this regard, urban students show a higher index of behavioral deviance and depression and a lower index of academic achievement. The researcher suggests that to improve academic achievement, deviance, aggression, and depression have to be controlled.

Sangtam (2014) studies the academic achievement, study involvement, and emotional maturity of secondary school tribal students of Nagaland. Her study reveals that emotional maturity is significant in predicting the educational attainment of secondary tribal students. She confirms that students with high socioeconomic status have better academic achievement. The study also shows a positive relationship between the parents' socioeconomic status and their children's educational attainment.

This study also debunks the previous research by Bhatnagar (1985), who reported that government school students had significantly higher levels of study involvement than private school students. There is no significant difference in study level based on gender, locality, and family size. On emotional maturity, it reveals that girls have a higher index of emotional maturity than boys.

Kanchan (2014) expounds on the following findings:

1. There is a positive correlation between academic achievement for boys and girls and nonverbal intelligence. However, for girls, nonverbal intelligence does not change with educational level.
2. Senior secondary boys and girls differ significantly in their mean scores on academic achievement motivation. This implies that senior secondary girls

possess significantly higher academic motivation than senior secondary boys. Nevertheless, boys and girls do not differ in their mean scores regarding academic achievement.

3. It may be noted that the senior boys with low academic achievement exhibit significantly superior achievement motivation compared to those with high academic achievement.

In short, girls and boys differ in terms of achievement motivation. However, girls are more motivated to achieve than boys. The study also revealed that boys have lower anxiety than girls about academic achievement.

Revathi (2014) reveals that students' different dimensions of interests, such as occupational, religious, social, and intellectual pursuits, have significant relationships with their academic performance. The positive correlation indicates increased interest in these factors would improve academic performance. They become the predictor of educational achievement. The study also reveals that deviant behavior conversely influences academic achievement. All the demographic variables, except religion, influence academic achievement. It was found that students from higher-income groups do better academically than those from lower-income groups.

Bhadouria (2014) explicates the close relationship between emotional intelligence and academic achievement. There is also a close relationship between the student's personality and academic achievement. The χ^2 value at a 0.05 significance level is 535.72, more than the standard value. Hence, there is a close relationship between educational attainment and the student's personality traits.

Komarraju and Nadler (2013) examine motivational orientations, cognitive strategies, and resource management in predicting academic achievement; the following are their hypotheses for the study: Students with high self-efficacy are likelier to subscribe to an incremental theory of intelligence than those with low self-efficacy. Students with high self-efficacy will prefer learning goals to students with low self-efficacy.

According to findings, students with high self-efficacy and confidence in their academic performance are also likely to believe that intelligence is changeable. This implies that training students to strengthen their self-efficacy and beliefs will

allow them to determine their performance and maintain self-discipline. The researchers argue that students with high self-efficacy can exert self-control and obtain a higher grade point average. Thus, self-efficacy emerges as a critical internal resource that enables students to remain focused on attaining their academic goals.

Ramana (2012) identifies the following key elements in her research thesis. She explains a positive correlation between self-confidence and academic achievement, as well as emotional intelligence and academic achievement. This implies that the higher the self-awareness and positive self-image, the higher the academic achievement among the B.Ed trainees.

However, there is no significant difference between boys and girls regarding academic achievement and self-confidence. The study also indicates that female students have a higher mean score in emotional intelligence, but males have a higher mean score in academic achievement. In short, the research finding shows that a positive self-image is one of the key factors leading to better academic achievement. Another correlation is that science students do better than arts students in academic achievement.

K.S. (2012) reveals that girls have a higher mean in academic achievement in biology, which is valid for urban students. Examining the correlation between boys and girls, the relationship is negligible and positive for the whole sample and subsample based on gender, the locale of the institution, and the type of management. Regarding the relationship between study habits and academic achievement in biology, the relationship is high and moderately positive.

The relationship between examination and achievement in biology is not significant in the case of gender and the setting of institutions. However, it is substantial in the case of the institution's management. In summary, the study highlights a negative relationship between examination anxiety and achievement in biology, but a positive relationship between study habits and achievement in biology.

Jeba Selin (2012) highlights the following objectives in her studies:

1. Boys are found to have a higher level of academic achievement, study habits, and physical activity than girls.
2. Students from small families have higher academic achievement and physical activity than those from prominent families.
3. CBSE students have higher academic achievement, study habits, nutrition, and physical activity than matriculation students.
4. First-born students have higher academic achievement and physical activity, followed by second- and third-born students. Higher-order-born students have significantly higher academic achievement than first-born students.

The study also shows a positive correlation between nutrition, physical activity, and academic achievement. This means students from families with a balanced diet have better educational results.

Varghese (2005), in his thesis, explains a close relationship between family social variables and academic achievement. Students with higher scholastic capacity also achieve better academically. It has also been revealed that students with stable emotions can achieve better academically. Students with high academic achievement also exhibit an exuberant personality. There is also a correlation between high academic achievement and high motivation levels. One of the factors indicating high scholastic achievement among students is good study habits. According to the researcher, low achievers have a pathological profile, inversely affecting their academic profile.

Table 2.1: Summary of Studies Related to Multiple Intelligence done Abroad

Year	Researchers	Title	Major Findings
2025	Pasandi et al.	Content Analysis of The Al-Arabiyyah Lil ‘Alam Educational Series Based on Gardner’s Theory of Multiple Intelligences	Logical and linguistic intelligence are the highest MI employed in teaching Arabic.
2024	Walela N. A	Multiple Intelligence in the Teaching and Learning Process: A Study of Howard Gardner’s Thought, Challenges and Opportunities.	The application of MI enables students to comprehend and listen better and develop their self-confidence.
2024	Macalangcom and Guillena	Multiple Intelligences, Perceived Teaching Styles, And Academic Performance of Junior High School Students	Linguistic and interpersonal intelligence are the dominant multiple intelligences of students.
2024	Murtafia et al.	Multiple Intelligences on Students’ Learning Outcomes: Differentiated Learning Context	The personalized learning experience that caters to differentiated learning styles activates genuine interest in learning.
2023	Doblon	Senior High School Students’ Multiple Intelligences and Their Relationship with Academic	All eight multiple intelligences indicate a weak and moderate relationship with

		Achievement in Science	achievement in science.
2022	Hasanuddin et al.	Exploration Of the Description and Relationship of Each Learning Style and Multiple Intelligences of High School Students	Only natural and existential intelligence significantly differ in intelligence between boys and girls.
2021	Al-Qatawneh et al.	The Representation of Multiple Intelligences in An Intermediate Arabic-Language Textbook and Teachers' Awareness of Them in Jordanian Schools.	Linguistic intelligence has the highest score in the Arabic Language textbook.
2020	Yavich and Rotnitsky	Multiple Intelligences and Success in School Studies.	Logical intelligence is the dominant intelligence among the students.
2019	Winarti et al.	The Effectiveness of Multiple Intelligences-Based Teaching Strategy in Enhancing the Multiple Intelligences and Science Process Skills of Junior High School Students.	Genetic factors and social environment contribute to intelligence development.

2018	Sener and Cokcahskan	An Investigation into Multiple Intelligences and Learning Styles.	Naturalist, visual, and kinaesthetic intelligence is the dominant intelligence.
2017	Posada et al.	Multiple Intelligence and Curriculum Implementation: Progress, Trends, and Opportunities	The application of Multiple Intelligences in students' learning creates better output.
2017	Dolati and Tahriri	EFL Teachers' Multiple Intelligence and Their Classroom Practice	MI in language learning is more effective than the traditional method of learning.
2016	Alas and Ericson	Investigating the Association between Turkish First-year Students' multiple intelligence profiles and university entrance examination performance	Students with dominant logical intelligence chose careers aligned with their intelligence.
2014	Hong et al.	Learning Effects of Interactive Whiteboard Pedagogy for Students in Taiwan from The Perspective of Multiple Intelligences	The whiteboard interactive approach improves learning outcomes.
		Multiple intelligence in the text: Examining	The annotated teachers' editions

2012	Mullican	the Presence of MI Task in the annotated Teachers Edition of Fox High School States History Text Book.	of the United States History textbook at Fox High School incorporated limited MI tasks.
2008	Booth and O'Brien	A Holistic Approach to Counsellors: Embracing Multiple Intelligence	Counselors can tailor their interventions and therapeutic skills to meet individual needs.
2006	Fleetham	Multiple Intelligence in Practice Enhancing Self-Esteem and Learning in the Classroom.	Students possess a unique combination of intelligence that can enhance their self-esteem.
2005	Baum et al.	Multiple Intelligences in the Elementary Classroom: A Teacher's Toolkit.	Strategies for teachers to engage in diverse learning styles and strengths.
1999	Campbell and Campbell	Multiple Intelligence and Student Achievement: Success Stories from Six Schools.	Success stories of incorporating MI in educational practices.

Table 2.2: Summary of Studies Related to the Application of Multiple Intelligence

Year	Researchers	Topic	Major Findings
2024	Nuo Duarte	History Teaching Based on the Theory of Multiple Intelligences: The Story of An Action Research Case Study.	Students learn faster when MI is integrated into learning History.
2024	Gebremeskel et al.	The Effects of Multiple Intelligence-Based Reading Tasks on EFL Students' Reading Skills Achievements: The Case of University Students in Ethiopia.	Treating MI in language learning improves the learning and comprehension of the students.
2023	Ahmadia et al.	The Role of Organizational Paranoia in The Formation of The Machiavellian Personality of Accountants with Emphasis on Gardner's Theory of Multiple Intelligences.	Incorporating the organizational service improves when an individual's unique talents are optimized.
2022	Yidana et al.	Teacher's Application of Multiple Intelligences Approach in Teaching Economics	The impact of teaching economics depends on teachers' experience incorporating MI insights into teaching.
2020	Millic and Semeunovic	Concordance Between Giftedness Assessments by Teachers and Parents, and the Self-Assessment Using Multiple	Multiple intelligence can help students achieve better and be higher achievers.

		Intelligences: High Ability Studies	
2020	O'Brien and Burnett	Counseling Children Using a Multiple Intelligence Framework.	Understanding the different bits of intelligence can foster effective counselling.
2017	Rohaniyah J	Integrating Learning Style and Multiple Intelligences in the Teaching and Learning Process	MI in the classroom helps students develop their concentration.
2016	Austin	Application of MI Theory in the Classroom: Culminating Projects in Teacher Development	Through MI in the classrooms, students take up ownership of the learning process.
2014	Hernandez et al.	The Theory of Multiple Intelligences in the Identification of High-Able Students.	MI helps students identify their gifted abilities.
2014	Hanajin	MI Theory, Action Research, and Professional Development: The Irish MI Project	MI gives insight into the epistemological paradigm in human intelligence.
2014	Hani Morgan	Maximising Students' Success with Differentiated Learning	MI improves learning for students with learning difficulties.
2013	Chen et al.	Learning Effects of Interactive Whiteboard Pedagogy for Students in Taiwan from the Perspective of Multiple Intelligences.	It enhances students' learning capacity and motivation and enables their diverse gifts.

2012	Stanciu et al.	Applying the Multiple Intelligence Theory into Pedagogical Practice: Lessons from the Romanian Primary Education System.	It increases students' creativity and collaboration in learning and increases students' participation.
2010	Bas and Beyhan	Effects of Multiple Intelligence Supported Project Learning on Students' Achievement Levels and Attitudes Towards English Lessons.	Students develop a liking for the English language and their diverse learning skills.
2007	Johnson	The Effect of Multiple Intelligences on Elementary Student Performance	The MI-based curriculum helps students to learn creatively and makes learning come alive.
2007	Cocklin and Frel	Differentiating the Curriculum for Gifted Learners.	The MI curriculum develops students' various talents and minds.
2004	Barrington	Teaching to Students in Higher Education: How Multiple Intelligence Theory Can Help	Incorporating MI theory in teaching can satisfy diverse students' needs.
1999	Willer	Application of Multiple Intelligence Theory in Quality Education.	MI in an organization improves teamwork and fosters creativity.
1992	Lazear	Teaching for Multiple Intelligence	MI in the teaching-learning process has a progressive impact

Table 2.3: Summary of Studies Related to Multiple Intelligence don in India

Year	Researchers	Topic	Major Findings
2024	Khan et al.	Maximizing Learning Potential: Integrating Multiple Intelligence Through EFL Teaching and Learning	MI positively impacts classroom learning regarding the diverse needs of the students.
2024	Rathi and Geetha	Relationship between Rational and Irrational Investment Decisions and Multiple Intelligence.	MI influences rational and irrational decisions and investments.
2023	Ray et al.	Nature of Multiple Intelligences and Perceptual Learning Styles of Perspective Teachers in W. Bengal.	Logical, verbal, and kinesthetic intelligence do not differ statistically between boys and girls.
2023	Agrawal and Vardhan	Learning Styles and Multiple Intelligences: A Pilot Exploratory Cross-Sectional Study in Students of North India.	Kinesthetic learning styles correlate with many types of intelligence and are also preferred.
2023	Chetry et al.	Integrating Innovative Pedagogy based on the MIT and Study Skills for Sustainable Development.	MI in the classroom gives better academic output and helps students develop holistically.
2022	Chetry and Prakash	Multiple Intelligence Theory as A Pedagogical Process and Its	Lesson planning through the MI approach caters to students' needs and helps them achieve the

		Relevance in New Education Policy 2020.	educational aims envisaged in NEP 2020.
2021	Parasher	A Comparative Study of Multiple Intelligence of Government and Private Secondary School Students	There is a significant difference in MI between secondary students in government and private schools.
2020	Sahay	Multiple Intelligence, Teacher Competency and Self Esteem of School Teachers.	94.2% of teachers have a moderate score of MI, and 45% have high self-esteem.
2019	Narad and Rani	Gardner's Multiple Intelligences and Academic Achievement of Students: A Review of Literature.	Logical, visual, intrapersonal, and natural intelligence correlate with academic achievement.
2017	Jagadeesha	Multiple Intelligence among B.Ed. Teacher Trainees to Relation to their Adjustment and Self-Concept.	Trainees are generally equipped with diverse intelligence, and kinesthetic and visual are their highest intelligence domains.
2016	Tarannum	Development of Multiple intelligence Teaching Modules in Mathematics for upper primary level.	MI teaching module is more effective than the conventional teaching method.
2016	Narasgouda	A Study of Emotional Intelligence and Academic Achievement of Students: A Review of Literature.	Influence of emotional intelligence in academic achievement.
		A Comparative Study of Multiple Intelligences of	The 8th grade scored high on interpersonal

2016	Shaikh et al.	Students with Respect to Grades.	intelligence, whereas girls of the same grade scored low in all MI.
2012	Francis	Multiple Intelligence- In Practice Enhancing Self Esteem and Learning in the Classroom.	The MI approach to curriculum transaction positively impacts learning.
2012	Chaudhuri	A Comparative study of the effectiveness of multiple intelligence-based teaching and non-multiple intelligences-based teaching of some units of education, Pune.	MI-based teaching method has effective learning in terms of achievement. MI-based teaching is more effective than the traditional method.
2012	Nelaturi	Emotional Intelligence of Heads of Secondary Schools in Relation to Leadership Behaviour and School Achievement.	There is a significant influence on the emotional intelligence of heads with age.

Table 2.4: Summary of Critical Works on Multiple Intelligence

Year	Researchers	Topic	Major Critiques
2023	Waterhouse	Why Multiple Intelligence is Neuromyth.	Intelligence cannot function independently of one another. MI findings cannot be synthesized because they have no objective measurement.
2021	Ferrero et al.	A Valid Evaluation of the theory of multiple intelligence is not yet possible: Problems of methodological quality for Intervention Studies.	The scientific community does not accept the claims of Multiple Intelligence Theory.
2015	Glazard	A Critical Analysis of Learning Styles and Multiple Intelligences and Their Contribution to Inclusive Education.	Cognitive abilities like mathematical and spatial reasoning are identical. Intelligence and talent are two different concepts.
2013	Mc Greal	The Illusory Theory of Multiple Intelligence.	Cognitive abilities are highly correlated and tested because they share a common core of reasonability.
2012	D. Klien	Multiplying the Problems of Intelligence by Eight: A Critique of Garden's Theory.	Intelligence works as a system and always works together, unlike multiple intelligence.

2008	Jamon F Peariso	Multiple Intelligence or Multiplying Misleading: The critic's view of Multiple Intelligence Theory.	Garnder does not recognize that general intelligence is present everywhere. It is not independent.
2006	John White	Trouble With Multiple Intelligence	He questions the scientific validity of MI and claims that psychological data about individual abilities are subjective.
2006	Waterhouse	Inadequate Evidence for Multiple Intelligence, Mozart Effect, and Emotional Intelligence.	No studies have been published that offer evidence of the validity of MI theory.
2006	Visser et al.	G and Measurement of Multiple Intelligences	The diverse tests of cognitive abilities purely indicate a strong association with general intelligence and are not specific.
2000	Allix	The Theory of Multiple Intelligences: A Case of Missing Cognitive Matter.	MI theory is superficial and descriptive without empirical data.
1992	Harry Morgan	An Analysis of Gardner's Theory of Multiple Intelligence.	Individual features embody processes typically in thinking, and problem-solving.

Table 2.5: Garner's Rebuttal to the Critique of Multiple Intelligence Theory

Year	Researchers	Topic	Major Rebuttals
2025	Gardner	Is there a Historical Intelligence? 1066, 1776, and all that...	Gardner muses on historical intelligence in reaffirming the eight bits of intelligence he theorized.
2023	Gardner	Are All Intelligence Equal? An Issue Raised by Cormac McCarthy's Recent Novels.	Domains and intelligence are two sides of the same coin. In this domain, knowledge and procedure are a part of intelligence, which is the ability to respond, comprehend, and master it.
2021	Rousseau	Neuromyths and Multiple Intelligence Theory: A Comment on Gardner	Human beings are endowed with autonomous intelligence that can solve problems according to the cultural milieu
2017	Gardner	Reflections on Multiple Intelligences: Myths and Messages.	Intelligence should be examined directly in an individual's setting rather than through linguistics and logic alone.
2008	Garner	Multiple Intelligence: New Horizon Theory and Practice.	Individuals may not be exceptionally intelligent due to a particular combination of skills that may not be well accepted in a given social milieu.

2006	Gardner and Moran	The Science of Multiple Intelligence Theory: A Response to Lynn Waterhouse.	MI theory is based on empirical findings from various disciplines that have been repeatedly formulated and integrated into the present theory.
1999	Gardner	Intelligence Reframed Multiple Intelligences for the 21 st Century	Any theory that stands ground or falls depends on the plausibility of the result it derives based on many accumulated findings over a long time. So is MI theory.

Table 2.6: Summary of Study Habits done Abroad

Year	Researchers	Topic	Major Findings
2024	Aljaffer et al.	The Impact of Study Habits and Personal Factors on the Academic Achievement Performance of Medical Students.	Students with high GPA scores are highly motivated to achieve success and self-fulfilment.
2024	Jereb et al.	Studying Habits in Higher Education Before and After the Outbreak of the COVID-19 Pandemic.	Students study more in the afternoon during pandemic times than in the evening and morning.
2023	Bentil	Study Habits and Academic Performance Among Public Junior High School Students in The Ekumfi District: Investigating the Controlling Effect of Learning Styles.	The primary factors influencing the study and academic achievement are the learning styles.
2022	Svartdal et al.	Study Habits and Procrastination: The Role of Self Efficacy.	Academic skills are easy to impart, but study skills and self-efficacy need a different orientation.
2021	Clarke et al.	University Students and Study Habits.	The study reveals that 98% of students use caffeine to stimulate themselves while studying.

2020	Walck et al.	To What Extend Do Study Habits Relate to Performance?	Students who attend class regularly put more effort into their studies and impact their studies.
2018	Ezeki & Ezeji	Effect of Social Media on Study Habits of Students of Alvan Ikoku Federal College of Education, Owerri.	This study aims to gather information about the frequency of social media usage, the time spent on social media platforms, and the impact of social media on students' study habits.
2018	Magulod. Jr.	Learning Styles, Study Habits, and Academic Performance of Filipino University Students in Applied Science Courses: Implications for Instruction. Journal of Technology and Science Education.	It explores the implications of these findings for instructional practices.
2017	Bacon	Effective Studying is a Science, Not an Art: Teaching Students Scientifically-Based Study Techniques.	It studies how students can change their study skills by adopting various study materials and bringing the techniques of studying and writing for the exam to their knowledge.
2017		Impact of Frequency of Testing on Study Habits and Achievement in	The study utilized two groups: the

	Alade and Kuku	Mathematics Among Secondary School Students in Ogun State, Nigeria.	experimental group and the control group.
2017	Uju and Paul	Study Habit and its Impact on Secondary School Student's Academic Performance in Biology in the Federal Capital Territory, Abuja.	There was a positive correlation between study habits and academic performance in Biology.
2015	Cerna and Pavliuschenko	Influence of Study Habits on Academic Performance of International College Students in Shanghai.	The study examines various study habits, such as time management, organization, note-taking, concentration, and study environment.
2015	Julius and Evans	Study of the Relation Between Study Habits and Academic Achievement: A Case of Spicer Higher Secondary School, India.	Academic achievement was measured using students' grades or marks obtained in their academic subjects.
2014	Brown et al.	Make it Stick: The Science of Successful Learning.	They emphasize the significance of retrieval practice, which involves actively recalling information from memory rather than passively reviewing it.
2013	Stella Cottrell		She emphasizes the importance of active

		The Study Skills Handbook.	learning, critical thinking, and self-reflection.
2010	Nonis and Hudson	Performance of College Students: Impact of Study Time and Study habits.	The study found that study time had a positive correlation with academic performance.
2009	Ozsoyet al.	Metacognition, Study Habits, and Attitudes. International Electronic Journal of Elementary Education.	There was a positive correlation between metacognitive awareness and study habits.

Table 2.7: Summary of Studies Study Habits done in India

Year	Researchers	Topic	Major Findings
2024	Jolly and Sethi	The Impact of Study Habits and Academic Motivation of College Students.	The study indicates that college students have moderately effective time management and good physical conditions but have poor note-making skills.
2024	Alex et al.	Study Habits and Academic Performance of Undergraduate Nursing Students: A Descriptive Study.	He emphasized the need for educational institutions to provide sufficient sources and guidance to students to cultivate good study habits and improve their performance in the nursing field.
2024	Rehman	Relationship Between Academic Anxiety, Intelligence, Study Habits, Socio-Economic Status, And School Environment Among Science and Non-Science Students.	The coefficient of correlation between academic anxiety and school environment is positive, with a value of 0.47, indicating that a better school environment induces academic anxiety.
2023	Molla and Mandal	Study Habits and Academic Achievement of	There is no significant difference in the study habits of secondary

		Secondary School Students.	students based on gender or location.
2022	Kaur and Sing	Study Habits and Academic Performance: A Comparative Analysis.	The study examines the relationship between study habits and academic performance of school children.
2022	Mookkiah et al.	Study Habits and their Impact on Academic Performance in Higher Secondary School Students.	Students' study habits are at the maximum category, and their English learning achievement is also higher.
2022	Mishra	Study Habits and Attitudes of Secondary School Students in India.	Parental occupation and income also do not significantly influence study habits and attitudes.
2021b	Bongale et al.	Effect of Pandemic on Students' Learning Habits in India.	Private students spend more time on their lessons during the pandemic.
2020	Pathak	Academic Stress and Self-Efficacy in Relation to Study Habits among Adolescents.	A positive relationship exists between study habits, stress, and academic performance.
2019	Madhukar	Influence of Study Habits on Scholastic Achievement of Children with Visual Impairment.	Rural students have better study habits, which lead to better scholastic achievement.
2018	Jena and Basu	Deep Work: Rules for Focused Success in a Distracted World.	Deep work is not only about working longer hours but rather about

			working with intensity and concentration.
2018	Dev S	Effects of Procrastination Behaviour, Stress Tolerance, and Study Habits on Academic Achievements of Indian Students Residing in India and in UAE.	Procrastination behavior, stress Tolerance, and Systematic Study habits positively influence students' academic achievement in India and the UAE.
2006	Hussain Ch	Effects Of Guidance Services on Study Habits and Academic Achievement of Secondary School Students.	The participants were divided into two groups: the experimental group received guidance services, and the control group did not.

Table 2.8: Studies Related to Academic Achievement done Abroad

Year	Researchers	Topic	Major Findings
2024	Kassaw et al.	Psychosocial Determinants of Academic Achievement in Ethiopian Higher Education Students.	One key element in their research was low self-esteem, which leads to poor problem-solving activity and cognitive abilities.
2023	Xu et al.	Synthesizing Research Evidence on Self-Regulated Learning and Academic Achievement in Online and Blended Learning Environments.	Metacognitive prompts produce higher academic performance in knowledge transfer but no significant difference in actual and transmission.
2022	Tong et al.	The Effectiveness of Blended Learning on Students' Academic Achievement, Self-Study Skills, and Learning Attitudes: A Quasi-experiment Study in Teaching the Conventions for Coordinates in the Plane.	Blended learning helps students be more engaged and interactive with their peers and teachers and enhances their communication skills.
2021	Kaymak et al.	The Effect of Cooperative Learning on Students' Academic Achievement.	Control groups with cooperative learning techniques are higher than traditional learning methods.

2020	Tikhomirova et al.	Predicting Academic Achievement with Cognitive Abilities: Cross-sectional Study Across School Education.	There is a moderate correlation between cognitive aspects that predict academic success.
2019	Jafari et al.	Relationship Between Study Habits and Academic Achievement in Students of Medical Sciences in Kermanshah-Iran	They found that good study habits are a predictor of academic achievement.
2019	Brück et al.	Learning the Hard Way: The Effect of Violent Conflict on Student Academic Achievement.	The conflict may significantly hinder human capital accumulation and economic development, not necessarily academic achievement alone.
2018	Leit et al.	Relationship between Student engagement and academic achievement: A meta-analysis.	The more students are engaged, the higher their academic achievement.
2016	Wilson and Buttrick	New Directions in Social Psychological Interventions to Improve Academic Achievement.	The more students cling to this idea, the less they will improve their standardized test achievement.
2016	Baunce et al.	The Student as a Consumer Approach in Higher Education and	The researchers suggest that university management initiate a

		Its Effects on Academic Performance.	dialogue with students about this consumer trend in education and negative academic achievement.
2016	Yaghoob and Hossein	The Relationship Between Multiple Intelligence for the Achievements of Secondary Students.	They show a significant positive correlation between perceived verbal-linguistic, logical-mathematical, musical intelligence and students' academic achievement.
2015	Makarova and Birman	Cultural Transition and Academic Achievement of Students from Ethnic Backgrounds: A Content Analysis of Empirical Research on Acculturation.	Empirical research on acculturation in the school context focuses on young people's academic achievement from minority backgrounds.
2013	Ayesha and Khurshid	The Relationship of Multiple Intelligence and Effective Study Skills with Academic Achievement among University Students.	They found that the lower-income group did better in academic achievement when compared with the higher-income group.
2013	Abdi et al.	The Effect of Teaching Strategy Based on Multiple Intelligences on Students' Academic Achievement in Science Course.	Teaching Science with a Strategy based on Multiple intelligences is more effective than traditional science teaching methods.

2012	Ahrberg et al.	The Interaction Between Sleep Quality and Academic Performance.	It is not poor sleep quality that affects academic output; poor sleep quality results from a lifestyle pattern of stress.
2012	Howie and Pate	Physical Activity and Academic Achievement in Children: A Historical Perspective.	The neuroelectric activity increases with fitness and academic achievement.
2012	Mushtaq and Khan	Factors Affecting Students' Academic Performance, Global Journal of Management and Business Research.	Several factors substantially impacted students' academic performance, including socio-economic background, parental involvement, study habits, motivation, teacher quality, and student-teacher relationships.
2008a	Soares et al.	Academic achievement in First-year Portuguese College Students: The Role of Academic Preparation and Learning Strategies.	The previous secondary academic earnings were the best predictor of the academic results of their undergraduate studies.

Table 2.9: Summary of Studies Related to Academic Achievement done in India

Year	Researchers	Topic	Major Findings
2025	Podiya et al.	Influences of School Climate on Emotional Health and Academic Achievement of School-Going Adolescents in India: A Systematic Review.	It provides significant evidence that the overall quality of a school's positive environment profoundly influences adolescents' emotional health.
2025	Onker et al.	Harnessing Machine Learning for Academic Insight: A Study of Educational Performance in Bhopal.	The result indicates a high machine learning efficiency in predicting the students' academic performance.
2024	Singh and Sharma	Shaping Academic Success: Analysing The Impact Of E-Learning, Quality Education, Learning and Study Strategies on The Academic Achievements of B.Ed. Students in India.	The researchers clarify that the quality of education is the most influential factor in the academic achievement of B.Ed. Students.
2024	Thangavel et al.	The Impact of Academic Procrastination on Students' Performance in Indian School Education Systems: A Special Research Analysis-Vision 2045.	Their finding reveals that procrastination and academic self-regulation are inversely related, meaning that higher discipline and academic achievement.

2023	Rani et al.	A Study of Academic Achievement of Secondary School Students in Relation to Self-Concept.	There is a positive relationship between academic achievement and self-concept.
2022	Panakaje et al.	COVID-19 and Its Impact on the Educational Environment in India.	The students have a positive attitude toward online classes and find them more interesting and beneficial than their in-person groups.
2021	Vikram	Father's Migration and Academic Achievement among Left-behind Children in India: Evidence of Continuity and Change in Gender Preferences.	Boys are given more resources for their educational expenses, which results in higher academic achievement in reading and arithmetic.
2020	Kavi and Walvekar	Lifestyle Factors Influencing Academic Performance Among Secondary School Students in an Urban Area of South India.	Students who are regular in school do better academically, and students with higher economic status do better in their studies.
2019	Dangol and Shrestha	Learning Readiness and Educational Achievement Among School Students.	Students' family and school readiness contribute to academic achievement.
2016	Sherafat and Murthy	A Study of Study Habits and Academic Achievement among Secondary and Senior	They found that students with better study habits have higher academic achievement.

		Secondary School Students of Mysore City,	
2015	Shoba	Psycho-Social Correlates of Academic Achievement Among Adolescent Students	There exists a statistically significant relationship among all the psychological variables, such as behavior deviance, aggression and depression, and academic achievement.
2014	Sangtam	A Study of Academic Achievement, Study Involvement and Emotional Maturity of Secondary School Tribal Students of Nagaland.	Emotional maturity is significant in predicting the educational attainment of secondary tribal students.
2014	Kanchan	A Study of Academic Anxiety, Achievement Motivation, and Academic Achievement Motivation about Non- Verbal Intelligence and Academic Achievement among Senior Secondary School Students.	The study revealed that boys have lower anxiety than girls about academic achievement.
2014	Revathi	Psychological Correlations of Academic Achievement of Adolescent Students.	It was found that students from higher income groups do better academically than those from lower income groups.

2014	Bhadouria	A Study of Personality and Emotional Intelligence and Its Effect on Academic Achievement of High School Students.	There is a close relationship between educational attainment and the student's personality traits.
2013	Komaraju and Nadler	Self-Efficacy and Academic Achievement: Why Do Implicit Beliefs, Goals, And Effort Regulation Matter.	Students with high self-efficacy and confidence in their academic performance will likely believe intelligence is changeable.
2012	Ramana	Correlates of Academic Achievement of B.Ed Students.	The research findings show that a positive self-image is one of the key factors leading to better academic achievement.
2012	K.S	Effect of Select Correlates of Achievement Motivation On Academic Achievement in Biology Among the Students at Higher Secondary Level.	There is a negative relationship between examination anxiety and achievement in biology but a positive relationship between study habits and achievement in biology.
2012	Jeba Selin	Psychological, Educational, and Health Correlates of Academic Achievement of Ninth Standard Students.	Students from families with a balanced diet have better educational results.

2005	Varghese	Psycho-Social Variables about Academic Achievement—A Comparative Study of High and Low Achievers.	Low achievers have a pathological profile, inversely affecting their academic profile.

2.3.1. Research Gap and Beyond

From the above reviews of the international and national studies on Multiple Intelligences, study habits, and academic achievement, many studies revealed a positive correlation between these variables. Some studies have been done on applying Multiple intelligences in curriculum instruction and have shown a positive impact on the students' learning. However, to the degree of variation, they have no statistical significance. At the international level, extensive studies were done, and in India, too, many studies have been done on multiple intelligences for students, learning behavior studies, etc.

Chaudhari (2012) conducted a study on the effectiveness of multiple intelligence in secondary students and revealed that it has a positive impact; however, this is limited to the application of MI in a teaching-learning process to class VI only. Nelaturi (2012) investigated the emotional intelligence of heads of secondary schools concerning their leadership behavior and school achievement and found a positive relation between the emotional intelligence of the school heads and school achievement. This is a study on one aspect of MI, the heads of the school, and the achievement of the school program. Jagadeesha (2017), in her research on MI in B.Ed students, showed a significant variation of MI among boys and girls. All these studies were done across the mainland and subjected to their customized need and objectives. Therefore, reviewing all this literature has necessitated the study of Multiple intelligences, study habits, and academic achievement among class X tribal students of Nagaland. From the above reviews, none of them have done these three parameters together, and not even NE India. Unlike the other general students, the tribals have their own worldviews and learning patterns. This study on Multiple intelligences, study habits, and academic achievement will fill the gap and bring the necessary insights to address the research gap. The study of multiple intelligences, thus, becomes relevant, taking into consideration students' study habits for higher academic achievement.

CHAPTER-III

RESEARCH METHODOLOGY

“Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under thy observation in life.”

Marcus Aurelius (161-180 CE)
Roman Emperor and Stoic Thinker

3.1. Introduction

Research design outlines the plan for conducting a study. It serves as a blueprint that guides researchers through various stages of their investigation, ensuring the validity and reliability of the results. Research methodology is described as a "systematic way to solve a research problem" by organizing procedures for gathering data, analyzing it, and drawing conclusions (Kothari, 2004). According to Creswell (2014), research design is "the plan or blueprint for a study, guiding how the research question is addressed and how data is collected and analyzed." Research design provides a framework that details "how to conduct the research process, including sampling, data collection, and data analysis methods" (Kumar, 2019).

3.2. Method

A research method is a systematic approach used to collect, analyze, and interpret data to answer research questions and test hypotheses. The researcher's goals may determine whether to adopt qualitative, quantitative, or mixed-method approaches. These methods guide the data collection processes of researchers and ensure the outcomes' consistency, reliability, and validity (Cresswell & Creswell, 2018).

In the words of Cothari (2005), a method is a structured approach or procedure used to accomplish a task or solve a problem. Researcher refers to the procedures used to gather and analyze data to validate the research questions and hypotheses. The method ensures that the research process is systematic, replicable, and

reliable. In this study, the researcher uses the descriptive survey method to investigate “Multiple Intelligence, Academic Achievement, and Study Habits of Class X Tribal Students of Nagaland.”

3.3.Population

A population is the entire group of individuals, items, or elements that share common characteristics and are of interest to a researcher. It is the larger group from which a sample is selected for a study, and the researcher seeks to generalize the findings (Fraenkel et al., 2012). In any scientific research, the population becomes indispensable to making inferences about the broader group with reasonable accuracy, reliability, and validity.

The present study's population consists of class X tribal students in government and private secondary schools of Nagaland affiliated with the Nagaland Board of School Education (NBSE).

Table 3.0: District-wise, Government and Private Secondary Schools in Nagaland affiliated to the Nagaland Board of School Education

SI No	DISTRICT	HIGH SCHOOL		TOTAL
		Government	Private	
1	KOHIMA	24	65	89
2	MOKOKCHUNG	42	29	71
3	TUENSANG	23	18	41
4	MON	23	41	64
5	PHEK	39	24	63
6	WOKHA	25	25	50
7	ZUNHEBOTO	26	31	57
8	DIMAPUR	10	82	92
9	KIPHIRE	17	13	30
10	LONGLENG	16	8	24
11	PEREN	20	19	39
12	CHUMOUKEDIMA	15	63	78
13	NIULAND	7	10	17

14	NOKLAK	6	4	10
15	TSEMINYU	7	5	12
16	SHAMATOR	3	3	6
	GRAND TOTAL			743

Source: NBSE, 2024

3.4. Sample

A sample is a smaller portion of a larger group selected for analysis. In research, statistics, and various scientific fields, samples are utilized to infer conclusions about the entire population without the need to study every member.

For instance, in a survey, a population sample is selected to represent the entire population of an area, district, state, and country. “A sample is a finite part of a statistical population whose properties are studied to gain information about the whole” (Black, 2015).

The present research employs the stratified sampling technique to frame the sample. This sample is divided into subgroups, or "strata," based on shared characteristics such as location, gender, or type. Subsequently, a random sample is taken from each stratum to ensure representation from each subgroup.

3.5. Selection Of Sample Schools

Six districts were selected from the 16 in Nagaland, representing approximately 20% of the total population. These six districts were chosen based on their literacy rates. The three districts with the highest literacy rates are Kohima, Dimapur, and Mokokchung, while those with lower literacy rates are Kiphire, Longleng, and Peren.

Four schools were chosen from each district: two government and two privates. The selection also considers locality, with two schools being rural and two urban. Thus, every school selected from the metropolitan area is either government or private, and the same principle applies to the rural context.

Table 3.1: Criteria for Selection of Districts

SL NO	DISTRICT	GDDP	LITERACY (%)
1	DIMAPUR	5,43,611.00	84.79
2	KOHIMA	2,14,785.00	85.23
3	MOKOKCHUNG	1,63,361.00	91.62
4	KIPHIRE	72,521.00	69.54
5	LONGLENG	62,112.00	72.17
6	PEREN	91,984.00	77.95

Source: Report on District Domestic Product of Nagaland

Out of 17 districts, six were selected as the universe of the sample collection for the study. Two criteria are the basis on which the above six districts were selected:

1. Gross Domestic Product:

- a. Highest three: Dimapur, Kohima, and Mokokchung
- b. Lowest three: Kiphire, Longling and Peren

2. Literacy Rate:

- a. Highest three: Dimapur, Kohima and Mokokchung
- b. Lowest three: Kiphire, Longleng, and Peren

Table 3.2: Selected Schools for Sample Collection

SL NO	District	Board	Locality	Management	
				Government	Private
1	Kohima	NBSE	Urban	TM.G.School	St.Mary H.School
			Rural	G.H.S.Kigwema	Chandmari.H.School
2	Dimapur	NBSE	Urban	G.H.S.H.Nagarjan	Carmel. H.School
			Rural	Tahekhu G.H. School	Assisi.H. School
3	Mokokchung	NBSE	Urban	Mayanokcha G.H. S	Queen M.H.School
			Rural	Senoyarba GH.	St Mary R.School
4	Kiphire	NBSE	Urban	G.H.S Kiphire Town	Loyola H.School
			Rural	G.H.S. Yangphi	Saramati H.School
5	Longleng	NBSE	Urban	Bautung G.H. School	St Thomas H.School
			Rural	G.H.S. Tamlu	Lompang H.School
6	Peren	NBSE	Urban	G.H.S Jalukie	St Xavier H.School
			Rural	G.H.S Peren	All Saints H. School

Source: Field Data

3.6. Selection of Sample

Twenty-five students were selected from each school for research using a stratified sampling technique. Thus, 600 students were gathered from 24 different schools across six districts in Nagaland. The two types of management from which the samples were drawn were government and private. Below is the sampling frame categorizing the samples.

Table 3.3: Sampling Frame

GRADE		600				TOTAL
GENDER		Male		Female		
		Rural	Urban	Rural	Urban	
SCHOOL	Government	60	70	80	90	300
	Private	60	70	80	90	300
TOTAL		120	140	160	180	
		260		340		600

Source: Field Data

3.7.Tools for Data Collection

The researcher used the following tools to collect data for the present study.

1. To measure the Multiple Intelligences of the class X students, the researcher used the standardized tool developed by Dr Terry Armstrong in 1999.
2. The final grade mark for the Academic Achievement of class X students was collected from the respective schools.
3. The investigator has constructed a Study Habit tool to measure or collect the study habits of class X students.

3.8.Multiple Intelligence Scale

Thomas Armstrong (1999) developed the Multiple Intelligence scale based on Howard Gardner's eight intelligence variants. Below is an overview of Multiple Intelligence. Armstrong constructed and standardized the scale to assess students' dominant values of multiple intelligence.

Gardner (1983) proposed that humans possess multiple, distinct types of intelligence. These intelligences reflect how people understand, learn, and interact with the world. The eight dimensions of intelligence are as follows:

3.9. Dimensions of Multiple Intelligence

1. **Linguistic Intelligence:** This is a ‘word’, brilliant. The ability to use language effectively for communication, expression, and learning.
2. **Logical-Mathematical Intelligence:** This is ‘number’ smart. It is thinking logically, reasoning, and working with numbers and patterns.
3. **Musical Intelligence:** This is ‘music’, brilliant. It includes the ability to understand sound, pitch, rhythm, tone, and the skill of creating or interpreting music.
4. **Bodily-Kinaesthetic Intelligence:** It is ‘physical’ smart. It involves coordinating physical movement and using the body to express or solve problems.
5. **Spatial Intelligence:** This is ‘Picture’ Smart. It involves the mental ability to visualize and manipulate objects and sensitivity to visuals and colors in detail.
6. **Interpersonal Intelligence:** This is ‘People’ Smart, sensitivity to understanding and empathizing with others.
7. **Intrapersonal Intelligence:** It is ‘Self’ Smart. Having a deep understanding of oneself, including emotions, goals, and motivations.
8. **Naturalist Intelligence:** It is ‘Nature’ Smart. It can recognize and classify elements in the natural world and profoundly enjoys plants, animals, and ecosystems.

3.1.0. Multiple Intelligence Score Sheet

Thomas adopted the multiple intelligence score sheet. The Likert scale calculates the total score of the students' multiple intelligences, which is summed up at the end of every intelligence score obtained. The sample score sheet is shown in the appendix section.

3.1.1. Scoring Pattern

The scale's scoring is based on the summation method of each scoring item as given by Likert (1932). Each item is rated and given the following score: If the item is given precisely like me, the score is 5; mostly like me is 4; somewhat like me is 3; a little like me is 2; and finally, not at all like me, then it is 1. The following table explicates the MI score.

Table 3.4: Likert Five-Point Scale

Exactly like me	Mostly like me	Somewhat like me	A little like me	Not at all like me
5	4	3	2	1

Source: Cited in Armstrong (1999)

3.1.2. Norms

Based on the statistical results, norms for interpreting the outcome of the data are established.

3.1.3. Academic Achievement

The researcher collected data on academic achievement from the final grade mark from the school student's cumulative records.

3.1.4. School Records

To collect data about students' achievement level and group them into average, above average, and below average achievers, the researcher personally met the teachers of the respective classes selected as the sample. The school's cumulative records and the marks of the students in their terminal examination conducted in the school were taken down, which helped the researcher in classifying the level of

achievement of the students – (above 40%), (above 50 %), (above 60%). (above 70%), (above 80%), (above 90%)

3.1.5. Study Habits Scale

The researcher standardized a scale for class X tribal students' study habits and used it to collect data on these students in Nagaland.

3.1.6. The Need for Constructing a Study Habits Scale for Class X Tribal Students of Nagaland

Notwithstanding the study habits scale constructed by many scholars at the regional, national, and international levels, none could suit this target group. Therefore, the researcher needed to build the tool for the following reasons.

Localized tools ensure that questions, terminology, and methodologies are culturally appropriate and meaningful for the target population. They address language barriers and cultural nuances, reducing misinterpretations during data collection. Additionally, they ensure that data collection processes follow a consistent format, minimizing variability introduced by different tools. Consequently, the researcher finds it easier to capture reliable data when comparing different groups.

No tool has been developed for the specific class X tribal students of Nagaland; therefore, it becomes imperative for the researcher to establish one. Under the supervision and recommendation of the supervisor, the researcher decided to construct and validate a new scale for the Class X Tribal Students of Nagaland.

3.1.7. Planning of the Scale

While developing a tool, balancing technical precision with ethical and contextual sensitivity, certain principles should be considered, making the tool practical and relevant for diverse educational needs (Mertens, 2020). Accordingly, the researcher planned to set up different dimensions of study habits on which the scale should be developed and administered. Below is a detailed description of the seven study dimensions.

i. Time Management:

This includes how a student can manage his time for studying the lessons, prioritize the time for study, and engage in other learning activities.

ii. **Formation of Study Habits**

This refers to the physical setting and mental well-being where students study well. It is the home and place where students find a peaceful ambiance.

iii. **Execution of Study Schedule**

This section deals with how students execute their timetables and adhere to lesson preparation.

iv. **Study Techniques**

Here, we examine how students can use different study techniques, such as pneumonics, acronyms, and diagrams, to help them register information effectively.

v. **Motivation and Attitude:**

A student's motivation and attitude toward studying impact their consistency and perseverance. Thus, positive attitudes and intrinsic motivation generally lead to better study outcomes.

vi. **Self-Assessment and Feedback:**

Students reflect on their progress, and receiving feedback helps to identify strengths and areas for improvement. Thus, self-assessment promotes a student's adjustment and re-adjustment of the strategies needed for better study outcomes.

vii. **Interaction and Support:**

This dimension includes students' ability to interact with peers, teachers, or study groups to help them understand complex concepts, stay motivated, and look ahead with dreams to achieve.

Thus, considering the above seven dimensions, items were developed to measure the class X tribal students of Nagaland.

3.1.8. Construction of Items

After studying the literature and tools developed on students' study habits, the researcher, with the supervisor's assistance, specifically constructed 100 items in

the preliminary draft, considering the study's goals and objectives. The items were made clear and direct to avoid ambiguity or confusion among the students. These items were then distributed across seven dimensions to enable the researcher to assess the students' study habits. The dimensions of the 100 items in the preliminary draft are presented below.

Table 3.5: Number of Items According to Dimensions

Sl No	DIMENSION	NO OF ITEMS	TOTAL ITEMS
1	Time Management	1-10	10
2	Study Environment	11-25	15
3	Goal Setting and Planning	26-36	10
4	Learning Strategies	37-46	09
5	Motivation And Attitude	47-65	23
6	Self-Assessment and Feedback	66-80	14
7	Parental and Teachers, Support	81-100	19
	TOTAL		100

Source: Field Data

3.1.9. Validity

Research validity refers to the extent to which research accurately measures what it intends to measure and yields trustworthy and objective results. It ensures the conclusions' reliability and determines whether the findings can be generalized to other contexts (Creswell & Creswell, 2018).

3.2.0. Content Validity

Content validity implies how a test, assessment, or measurement tool adequately represents the evaluation of instructional content. It ensures that the test items are aligned with the curriculum objectives, standards, or theoretical constructs being assessed. It is typically established through a systematic review by subject matter experts who evaluate whether the test items comprehensively and appropriately reflect the domain of interest (Frankel et al., 2019).

Content validity is ensured by giving the questionnaires to the ten experts in the field of education for their comments and suggestions and omitting ambiguous questions. The highest scores were selected after finding the average score given to each item. Thus, 35 items were selected based on the scores given by the subject experts. The following table explicates the scoring pattern shown to the subject experts for their validation.

Table 3.6: Observation of Item Chart

	ITEM	Relevance				Clarity				
		Not relevant	Somewhat Relevant	Quite Relevant	Highly Relevant	Not Relevant	Not Clear	Needs some Revision	Not very clear	Very clear
		1	2	3	4	1	2	3	4	5

3.2.1. Pilot Study

It is a small-scale preliminary study to evaluate a larger research project's feasibility, methodology, and potential outcomes. Pilot study plays a critical role in refining research design, testing the reliability of the instruments, and seeing how it is suitable for the target population (Van Teijlingen & Hundly, 2002).

The first draft of the study habits scale for class IX tribal students in Nagaland was developed with 35 items following the expert opinions gathered for the pilot study. Each item on the scale was rated on a five-point scale: strongly agree, agree, undecided, disagree, and strongly disagree. The scale was administered to 200 students from Kohima and Dimapur. The sample of 200 students was drawn from 8 schools, four in Kohima and four in Dimapur. After administering the scale, the results were collected and discussed with the supervisor. Changes were made to the question items of the scale, and new instructions were added wherever necessary.

3.2.2. Items Analysis

After administering the first draft to the ten subject experts, the second draft was given to the students. The items were analyzed using SPSS V.22, revealing a one-sample t-test value for each statement at the 0.01 significance level. The items were selected based on higher means achieved by the variables and lower standard deviations. Therefore, the items that exceeded the minimum mean score of 2.699 were chosen.

Table 3.7: Selected Items for Data Collection

Item	Mean	Std. Deviation	Std. Error Mean	t-value	Remark
1	2.66	0.97	0.16	15.93	Selected
2	2.74	0.98	0.17	16.25	Selected
3	3.11	0.93	0.16	19.45	Selected
4	3.2	0.99	0.17	18.75	Selected
5	3.23	0.81	0.14	23.29	Selected
6	3.26	0.98	0.17	19.35	Selected
7	3.34	1	0.17	19.51	Selected
8	3.4	0.81	0.14	24.42	Selected
9	3.43	0.92	0.15	21.8	Selected
10	3.46	0.92	0.16	21.94	Selected
11	3.46	0.92	0.16	21.94	Selected
12	3.49	0.78	0.13	26.02	Selected
13	3.54	0.85	0.14	24.25	Selected
14	3.54	0.82	0.14	25.3	Selected
15	3.57	0.92	0.15	22.73	Selected
16	3.6	0.81	0.14	25.87	Selected
17	3.63	0.94	0.16	22.47	Selected
18	3.66	1	0.17	21.38	Selected
19	3.66	0.84	0.14	25.46	Selected
20	3.71	0.83	0.14	26.28	Selected
21	3.77	0.94	0.16	23.37	Selected
22	3.77	0.81	0.14	27.26	Selected
23	3.8	0.76	0.13	29.22	Selected
24	3.83	0.89	0.15	25.1	Selected
25	3.83	0.75	0.13	29.93	Selected

Source: Field Data

3.2.3. The Final Draft of The Scale

The final draft of the scale was prepared after the items in the first draft were analyzed and finalized based on the criteria developed from the descriptive statistical analysis. Required modifications were made for the items, relevant items were retained, and the others were rejected from the final list. Hence, 25 items were finalized to assess the study habits of Class X tribal Students of Nagaland. The different dimensions of study habits are captured as follows.

Table 3.8: Study Habit Dimensions

Sl No	Dimensions	No of Items	Total No of Items
1	Time Management	1,4,10,24	4
2	Study Environment	22,23,25	3
3	Goal Setting and Planning	7,9,11	3
4	Learning Strategies	3,13,14,15,20	5
5	Motivation And Attitude	2,5,8,21	4
6	Self-Assessment and Feedback	18,19	2
7	Teachers' and Parental Support	4,6,12,21	4
	TOTAL	25	25

3.2.4. Reliability

Reliability is the degree to which an instrument or procedure measures consistency (Best and Kahn, 2017). It produces stable and accurate results over repeated applications under similar conditions. It indicates the dependability or consistency of the data collected, ensuring that random errors, external factors, or inconsistencies in measurement do not significantly influence the outcomes. Reliability establishes the trustworthiness of research findings and supports valid conclusions (Fraenkel et al., 2019).

The split-half method was applied in SPSS 22 to determine the scale's reliability and coefficient. The Spearman-Brown coefficient was calculated to be 0.947, Cronbach's Alpha was 0.970, and the Guttman Split-Half coefficient was 0.942. These values indicate that the study habits of class X tribal students in Nagaland are highly reliable and effectively measure what they intend to measure. Hence, they

suggest that what the investigator constructed through the applied, systematic process is valid and dependable. The table below shows the reliability values.

Table 3.9: Reliability of Study Habits of Class X Tribal Students of Nagaland

Study Habits of Class X Tribal Students of Nagaland	Spearman-Brown Coefficient	Cronbach's Alpha	Guttman Split-Half Coefficient
	0.947	0.970	0.942

Source: Field Data

3.2.5. Scoring

The study habits scale for Class X tribal students of Nagaland contains 25 items. Each item on the scale was rated with the Likert Scale, scoring from 1 to 5. For every positive statement, the marking was in descending order:

Strongly Disagree:	5
Disagree:	4
Undecided:	3
Agree:	2,
Strongly Agree:	1.

However, from the negative statement item, the scoring was in ascending order, such as:

Strongly Disagree:	1
Disagree:	2
Undecided:	3
Agree:	4
Strongly Agree:	5

The score is presented as follows:

3.2.6. Scoring For Study Habits of Class X Tribal Students of Nagaland

Table 3.10: For a Positive Statement

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
5	4	3	2	1

Table 3.11: For a Negative Statement

Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	2	3	4	5

3.2.7. Data Collection

The data were collected using Thomas Armstrong's Standardized Scale of Multiple Intelligence (199) and the researcher's developed Study Habits of Class X Tribal Students of Nagaland.

The researcher personally visited the schools with the introductory letter of the HOD of the Teacher Education Department, Nagaland University, Kohima Campus, and explained the purpose of data collection. After gaining permission from the Headmaster or Principal, the researcher went to the classroom, distributed the questionnaire, and explained how to fill it out by ticking appropriately in the space given. Along with the MI schedule and study habits schedules, the academic achievement of the class X students was collected from their previous academic progress record of class IX. Students were assured that their information would be used only for research purposes and not passed on to a third party.

3.2.8. Statistical Technique Used

The following statistical techniques were used to analyze the data:

1. Mean and standard deviation (SD) were computed to assess the students' Multiple Intelligences (MI) values.
2. Pearson's Product-Moment Correlation technique was applied to determine the correlation between academic achievement and MI.
3. A t-test was done to establish the difference in the relationship between students' MI concerning gender, tribe, district, management, and locality.

4. A one-way ANOVA and t-test of mean and standard deviation were used to analyze the mean of more than two groups within the same variable: academic achievement and study habits.
5. Two-way ANOVA was used to study the influence of study habits on academic achievement among tribal students of Nagaland.
6. Three-way ANOVA was used to study the relation or influence among gender, types of management, and locality in academic achievement and multiple intelligence.

3.2.9. Analysis of Data

The sample response sheets were collected for coding, scoring, and tabulation. SPSS V.22 (Statistical Package of Social Science) and the Microsoft Excel V.2000 package were used for data analysis, and interpretations were made. Graphics and images, such as pie charts, histograms, bar graphs, etc., were used to convey the results of the objectives, hypotheses, and illustrations of the research outcomes.

3.3.0. Conclusion

The research design presented above gives a definite shape in which a research approach is taken systematically following a scientific consistency. This method is adopted to study the relationship between Multiple Intelligence, Study Habits, and Academic Achievement of Class X Tribal Students of Nagaland. Quantitative and descriptive statistical methods were used as the most appropriate tools in analyzing and quantifying the data in answering the research questions and hypotheses.

Notwithstanding the limitations of the above research design, the methodology is scientifically rigorous in following the prescribed norms, such as the sampling procedure, establishing tool validity and reliability, and making generalizations and meaningful interpretations of the data. The following chapter presents the analysis and findings of the research objectives and hypotheses.

CHAPTER-IV

ANALYSIS AND FINDINGS

The goal is to transform data into information, and information into insight.

Carly Fiorina.

CEO of Hewlett-Packard (1999–2005)

4.1.Introduction

This chapter analyses the data on Multiple intelligences, study habits, and academic achievement of class X tribal students. It will give a general background of the data and explain how the researcher collected it to test the hypothesis and validate the study's objectives.

This chapter will also present the analysis in descriptive statistics and inferential statistics. The hypothesis guides the study's objectives; therefore, in light of that argument, the hypothesis testing result will be done, and it will be discussed whether it is accepted or rejected in light of the study's findings.

4.2.General Information About the Respondents

Table 4.0: School Locality

SETTING	Percent
Rural	49.0
Urban	51.0
Total	100.0

The table presents the data of the study sample's urban and rural populations. The metropolitan population is 51%, while the rural population is 49%. There is a slight variation in the sample distribution of the urban and rural populations as the ratio of the students' population is higher; hence, the population difference in sample distribution is based on location.

Figure 4.0: Locality of School

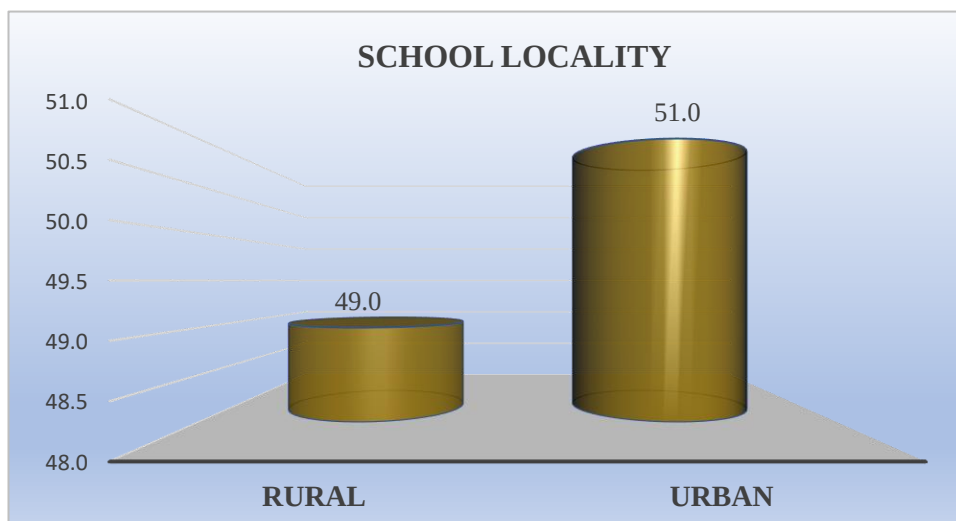


Table 4.1: School Management

Management	Percent
Government	45.8
Private	54.2
Total	100.0

The table represents a sample of school management based on government and private establishments. The government school accounts for 45.8%, while the private school accounts for 54.2%. The student population in private schools is higher; therefore, the sample representation is higher than that of the government establishment.

Figure 4.1: School Management

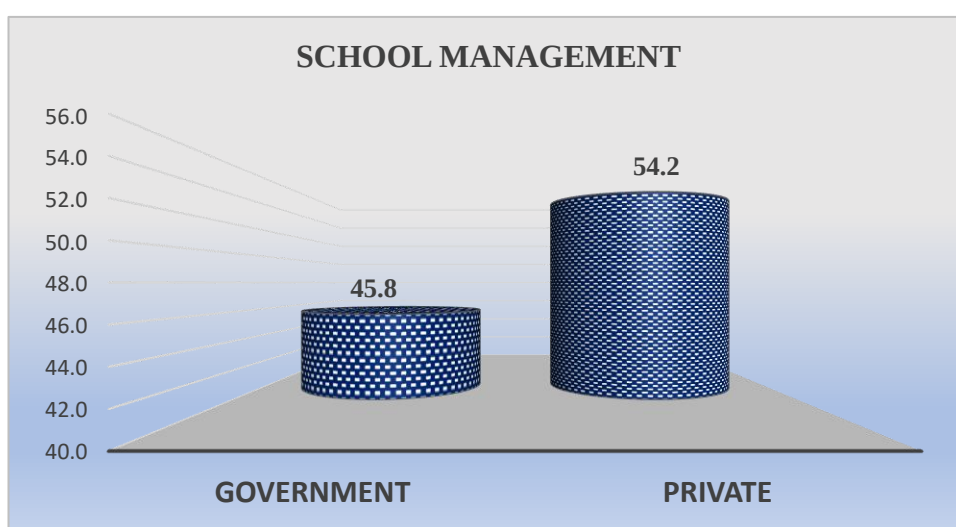


Table 4.2: Sixteen Tribes of Nagaland in the Sample

SL No	Tribe	%	SI No	Tribe	%
1	Angami	8	9	Pochury	0.3
2	Ao	18	10	Rengma	0.2
3	Chakhesang	3	11	Rongmei	1.2
4	Chang	1	12	Sangtam	12
5	Khamniugan	2	13	Sema	8.3
6	Konyak	4	14	Tikhir	4.7
7	Lotha	4	15	Yimkhing	1.5
8	Phom	19	16	Zeliang	15

These tribes were selected from the sample collected from six districts of Nagaland. Where the data represents more of a percentage, they are the tribes from the particular districts. Therefore, Angami, Ao, Phom, Sangtam, Sema, and Zeliang were dominant in their districts. However, the other tribes were also collected randomly from Kohima, Dimapur, Kiphire, and Peren districts.

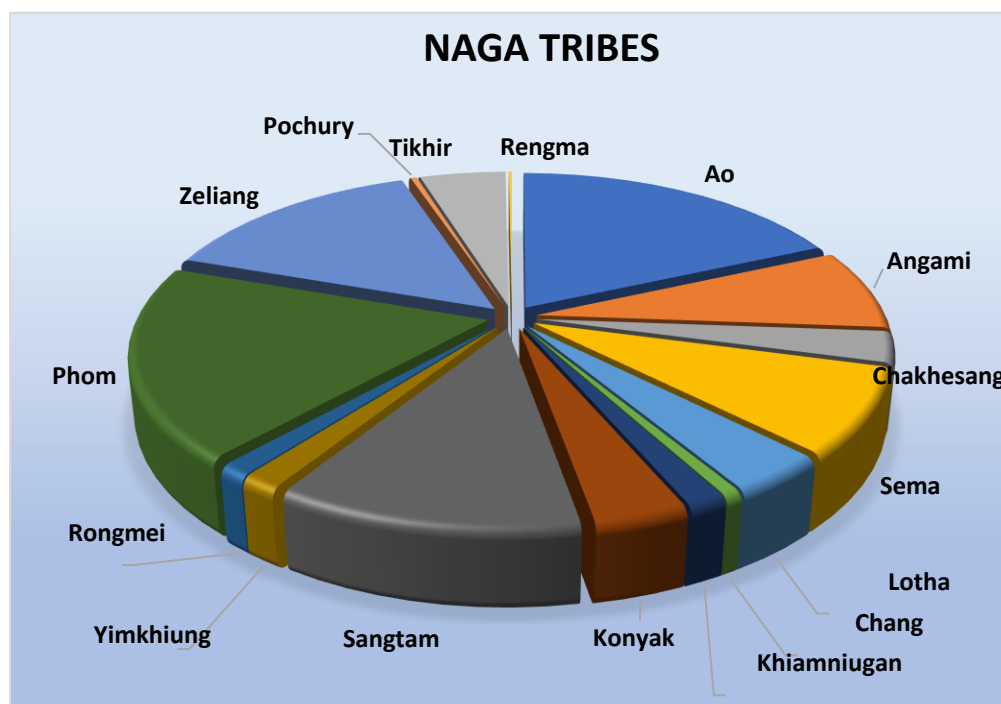
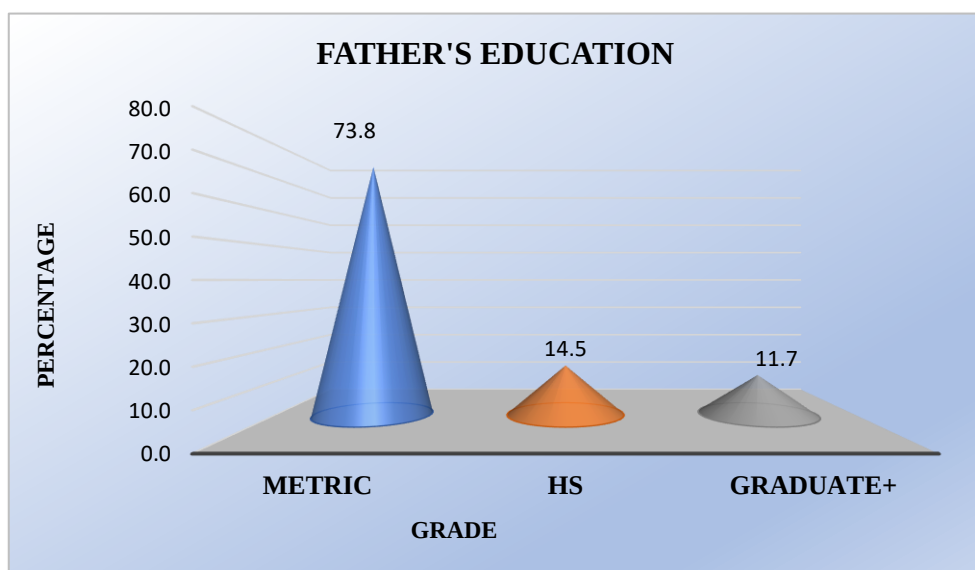
Figure 4.2: The Pie Chart depicting 16 tribes of Nagas in Nagaland

Table 4.3: Father's Education Level

Grade	Percent
Metric	73.8
HS	14.5
Graduate and above	11.7
Total	100.0

Source: Field Data

Figure 4.3: Students' Fathers' Education



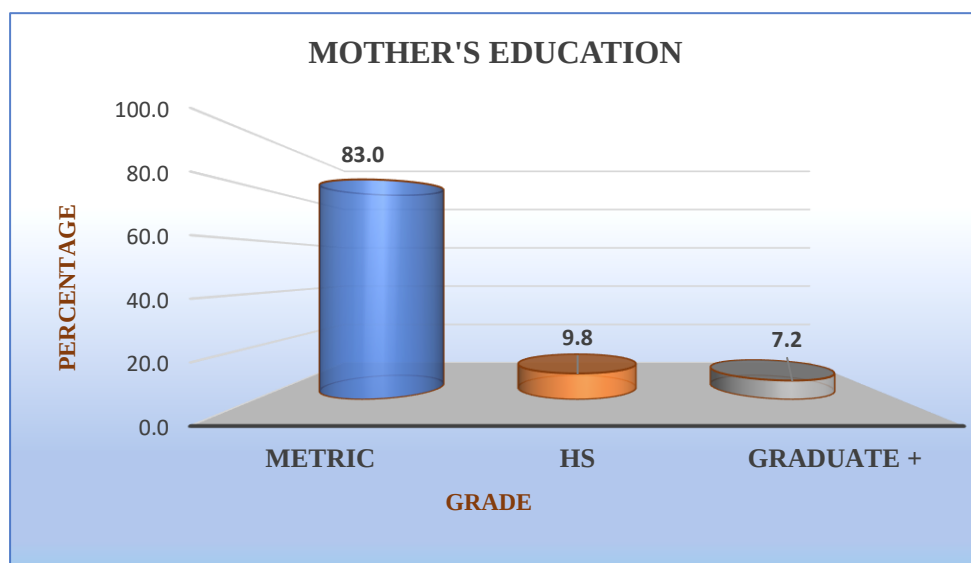
The table depicts the fathers' qualifications. Most of them are matriculate and have the highest score, 73.8%, while higher secondary grade is 14.5%, and graduate and above is 11.7%. Therefore, most of the respondents come from the background of Matriculate parents.

Table 4.4: Mother's Education

Grade	Percent
Metric	83.0
HS	9.8
Graduate and above	7.2
Total	100.0

Source: Field Data

Figure 4. 4: Students' Mother Education



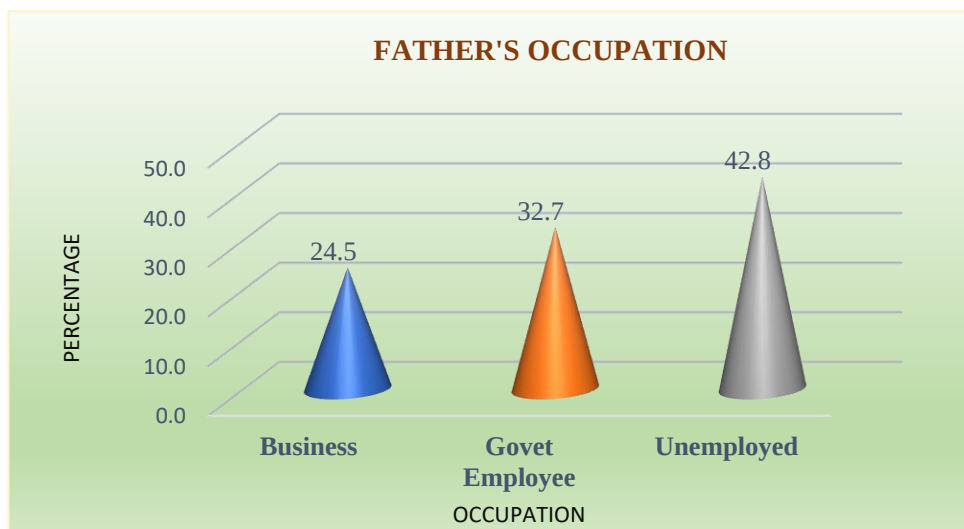
In the mother's educational background, the matriculation percentage is higher than the father's education level. The mother's highest education level score is a matriculate with 83%. At the same time, the higher secondary level has a 9.8% score, and the higher graduate and above is 7.2%, which is lower than the former.

Table 4.5: Father's Occupation

Occupation	Percent
Business	24.5
Govt Employee	32.7
Unemployed	42.8
Total	100

Source: Field Data

Figure 4.5: Students' Fathers' Education



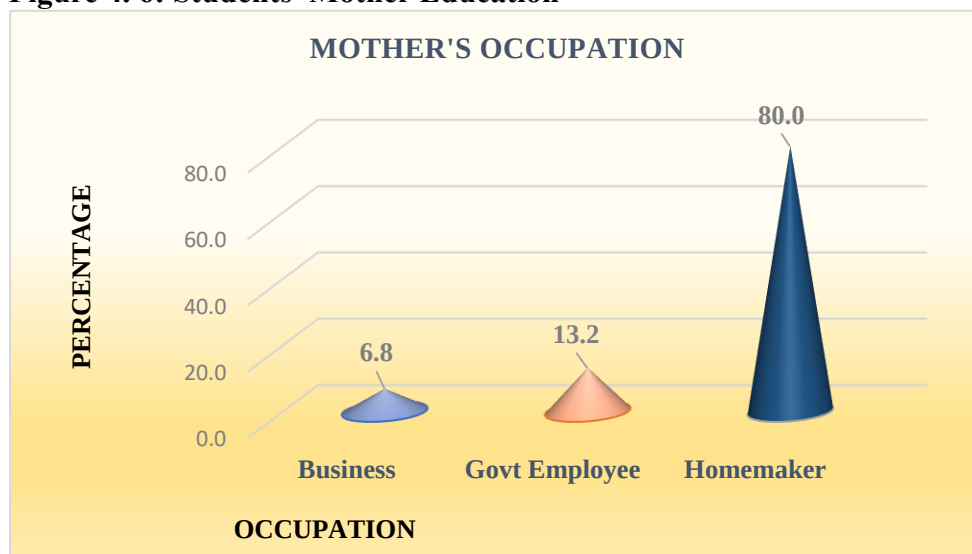
About two-thirds of the respondents' fathers are unemployed, with 42.8%, while government employees are 32.7%, and 24.5% for business. Quite a good percentage of the fathers are unemployed.

Table 4.6: Mother's Occupation

Occupation	Percent
Business	6.8
Govt Employee	13.2
Homemaker	80
Total	100.0

Source: Field Data

Figure 4. 6: Students' Mother Education



Most mothers are homemakers, with an 80% score substantiating this profession. The government employees account for only 13.2%, and the remaining 6.8% is for business. Working women still have very low livelihoods.

Table 4.7: School infrastructure

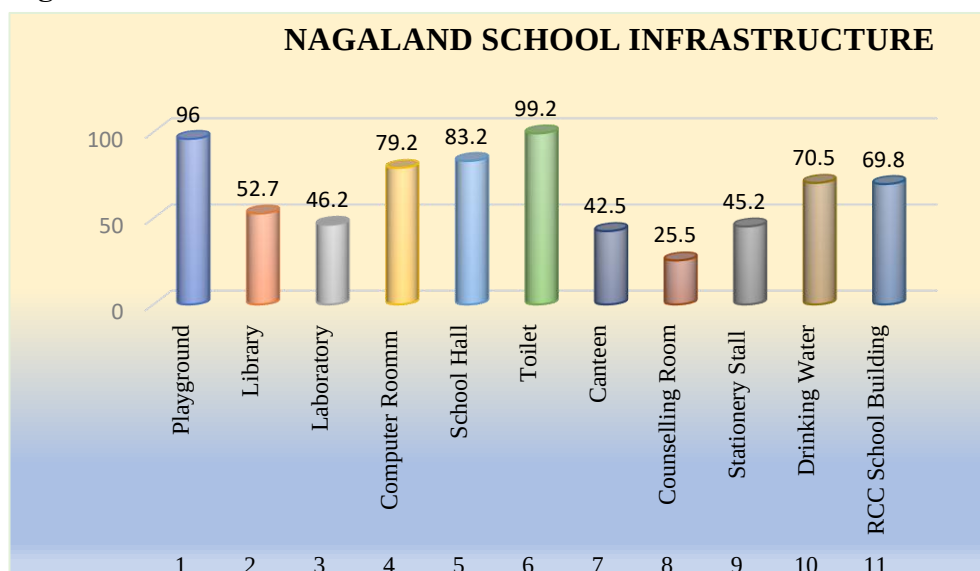
Sl No	Item	Percentage
1	Playground	96
2	Library	52.7
3	Laboratory	46.2
4	Computer Lab	79.2
5	School Hall	83.2
6	Toilet	99.2
7	Canteen	42.5
8	Counselling Room	25.5
9	Stationery Stall	45.2
10	Drinking Water	70.5
11	RCC School Building	69.8

Source: Field Data

While most schools have all the basic needs for the smooth running of the school, a few items are still far from satisfactory. Hardly one-third of the schools have a counselling room and a counselling facility for the students, notwithstanding the dire need for the same. It is only 25.5% overall. The laboratory is another dimension that needs attention. Here, only a 46.2% score has been achieved. This is another

infrastructure that needs immediate attention, as most schools do not have this facility for learning demonstration for the students. The school infrastructure is above average, with a few elements that must be addressed for a holistic education. The visual presentation is below.

Figure 4.7: School infrastructure



4.3.The School Infrastructure Based on The Type of School Management

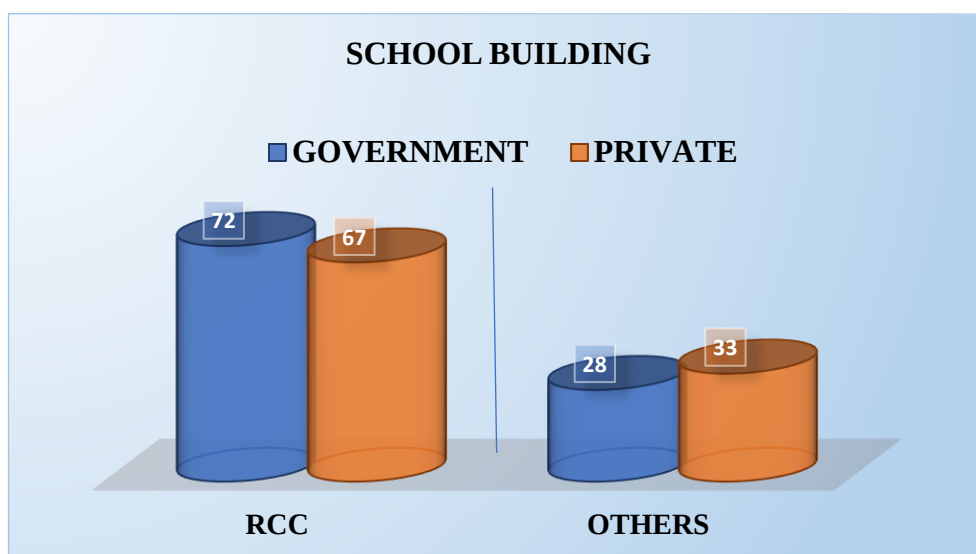
It is now appropriate to study the school infrastructure comparatively, at least in one parameter, namely, the type of management between the government and private schools. Below is the summary and data captured on the status of school infrastructure against government and private schools.

Table 4.8: School building

School	Response		Total
	%		
	RCC	Others	
Government	72	28	100
Private	67	33	100

Source: Field Data

Figure 4.8: Type of School Building



The table indicates the school's type of building. 72% of the respondents affirmed that their school structure is an RCC building. Only 28% replied that their school building is not an RCC but an Assam-type building. Surprisingly, for the private sector's school infrastructure, the response is only 67%, and for Assam-type buildings, it amounts to 33%. Below is a graphical representation of the above statistics. The public sector has a higher proportion of RCC school buildings.

Table 4.9: Library

School	Response		Total
	% Yes	No	
Government	45	55	100
Private	59	41	100

Source: Field Data

The school library facilities are average in both the government and private sectors. For the government school, the library facility is below average, with only 45%, while the negative response is 55%. For the private schools, the positive response is 59%, with a 41% negative response. Below is the graphical representation of the library facilities of government and private schools.

Figure 4.9: School Library

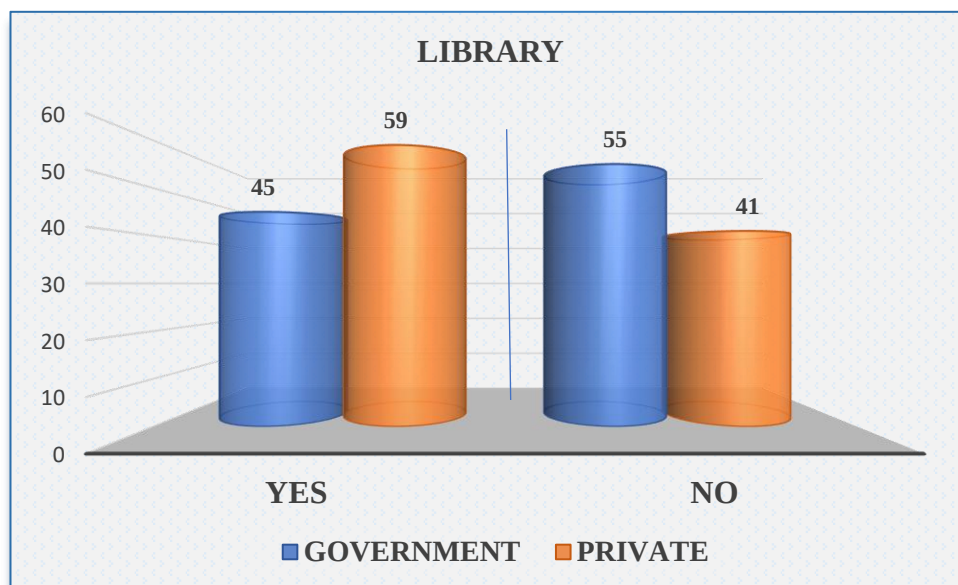


Table 4.1.1: Laboratory

School	Response %		TOTAL
	YES	NO	
Government	45.8	54.2	100
Private	46.4	53.6	100

Source: Field Data

The laboratory facilities for both government and private schools are average. The positive response for the government school is only 45.8%, whereas for the private school, it is 46.4%.

Figure 4.1.1: School Laboratory

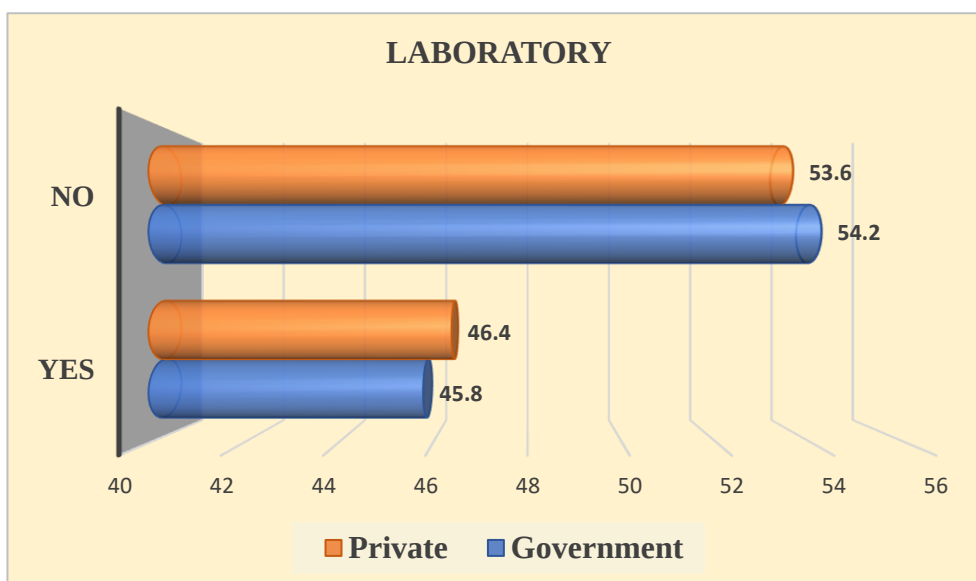
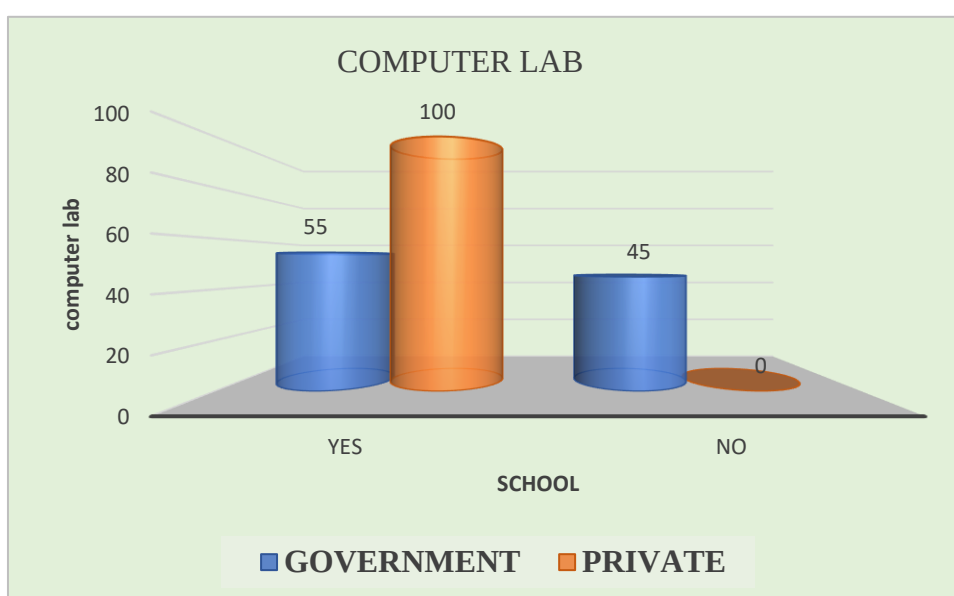


Table 4.1.2: Computer Lab

School	Response %		Total
	Yes	No	
Government	55	45	100
Private	100	0	100

Source: Field Data

The digital literacy mission in the private sector is excellent. The above statistic indicates a 100% positive response. In the government school, the positive response is just above average, with 55%. Below is the graphical representation of the computer facilities offered to the students.

Figure 4.1.2: Computer Lab Facility in the School**Table 4.1.3: School Hall**

School	Response %		Total
	Yes	No	
Government	91	9	100
Private	76	24	100

Source: Field Data

The presence of the school hall is impressive in the government sector, with 91% of respondents giving a positive response. However, in the private sector, the response is only 76%, providing a positive reply. The graphical representation of this reply will make it clear.

Figure 4.1.3: School Hall Facility

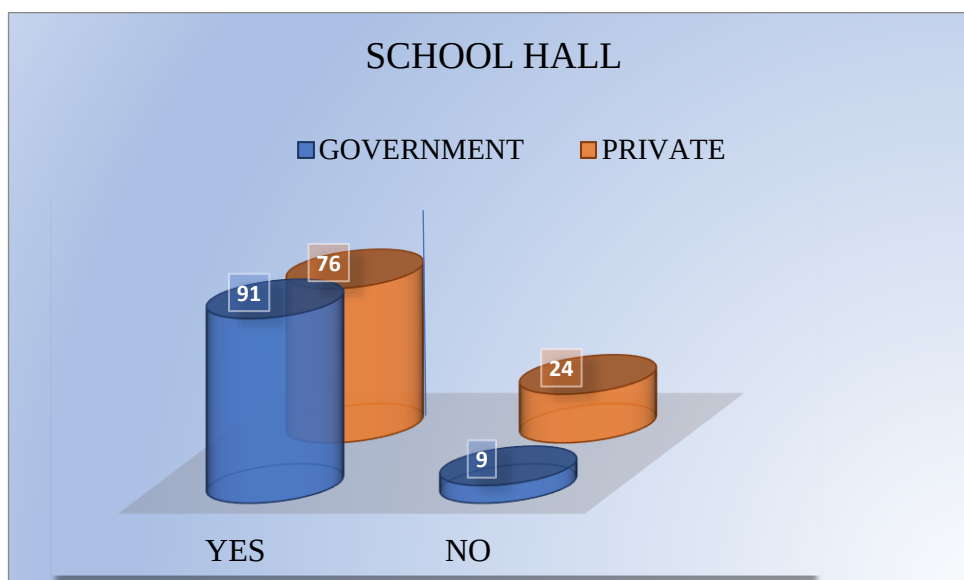


Table 4.1.4: Toilet and Urinal

SCHOOL	RESPONSE		TOTAL
	YES	NO	
GOVERNMENT	100	0	100
PRIVATE	98	2	100

Source: Field Data

The government school has better toilet facilities for the students. The respondents' value of 100% indicates their overall satisfaction with the basic facilities offered by the school. Private schools, on the other hand, offer only 98% of the basic facilities. The graphical representation will speak for itself.

Figure 4.1.3: Toilet and Urinal in the School

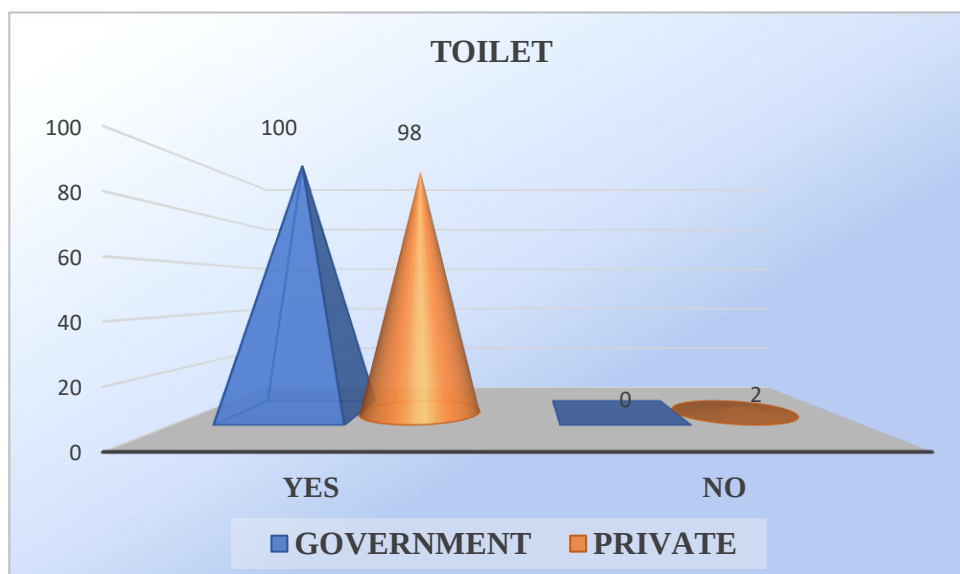


Table 4.1.5: Canteen

School	Response		Total
	Yes	No	
Government	37	63	100
Private	47	53	100

Source: Field Data

Many schools do not provide canteen facilities for students. Of the government schools, 37% of the respondents gave a positive reply, and 47% of the private schools affirmed the canteen facilities on the school premises. The graphical representation will clarify.

Figure 4.1.4: School Canteen

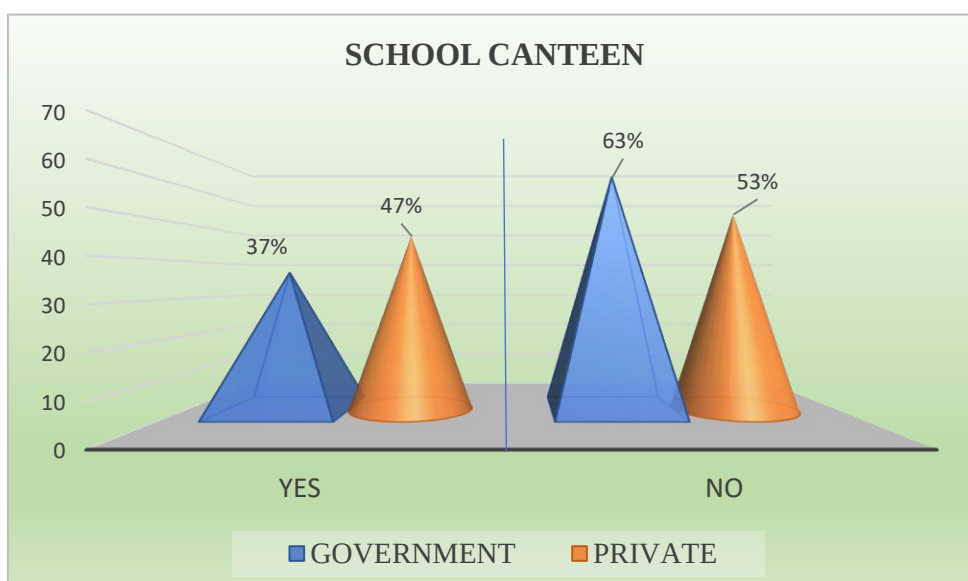
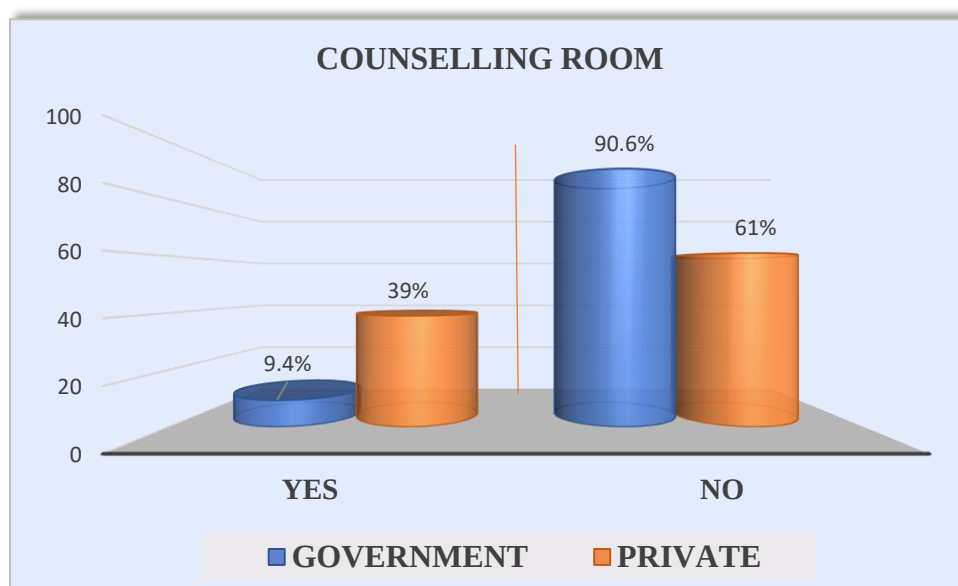


Table 4.1.6: Counselling Room

School	Response %		Total
	Yes	No	
Government	9.4	90.6	100
Private	39	61	100

Source: Field Data

Most schools do not have counselling rooms. The government schools' score is 9.4%, while the private schools' response is 39 %. This indicates the students' poor human resource development. The graphical representation of the above data is presented below.

Figure 4.1.5: Counselling Room in the School**Table 4.1.7: Drinking Water**

School	Response %		Total
	Yes	No	
Government	9.4	90.6	100
Private	39	61	100

Source: Field Data

Here, the government schools have a better response concerning drinking water facilities: 72%, while the positive response for the private schools is 70%. Many

private schools do not have basic drinking water facilities. The graphical representation will suffice.

Figure 4.1.6: Drinking Water Facility in the School

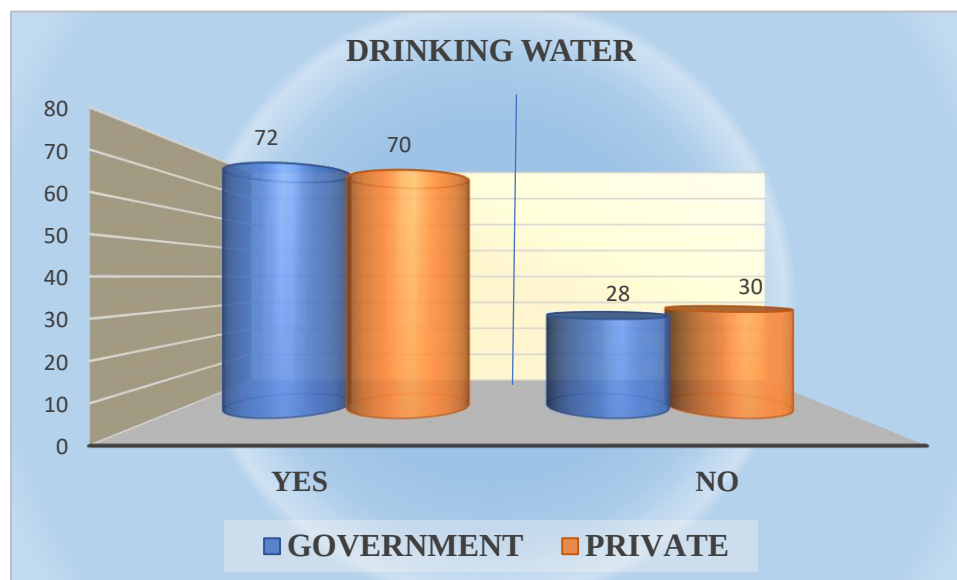


Table 4.1. 8: Stationery Stall

School	Response %		Total
	Yes	No	
Government	9.4	90.6	100
Private	39	61	100

Source: Field Data

It is evident in government schools that many lack stationery stalls. Only 26% of respondents positively indicated having such facilities for students. Private schools, on the other hand, provide better facilities, with 61 % reporting they have such amenities.

Figure 4.1.7: School Stationery Stall

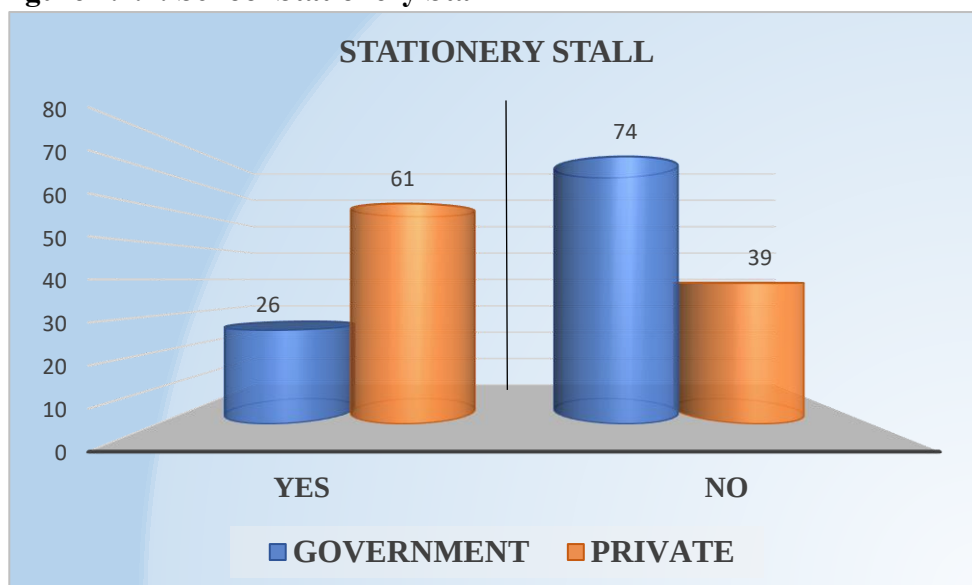


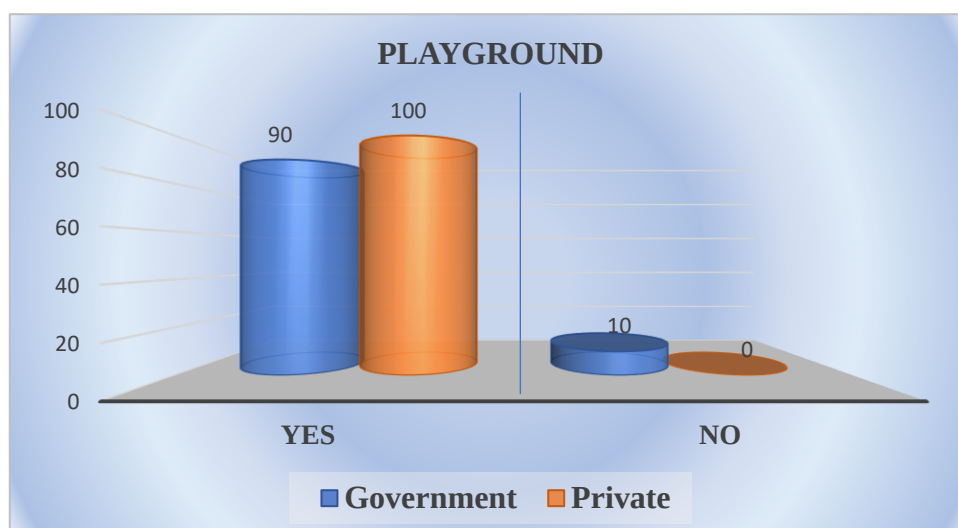
Table 4.1.9: Playground

School	Response		Total
	Yes	No	
Government	90	10	100
Private	100	0	100

Source: Field Data

Here, private schools have a smaller percentage of playgrounds for students. Government schools, however, have 90% of having playgrounds. Below is the graphical representation of the data.

Figure 4.1.8: School Playground



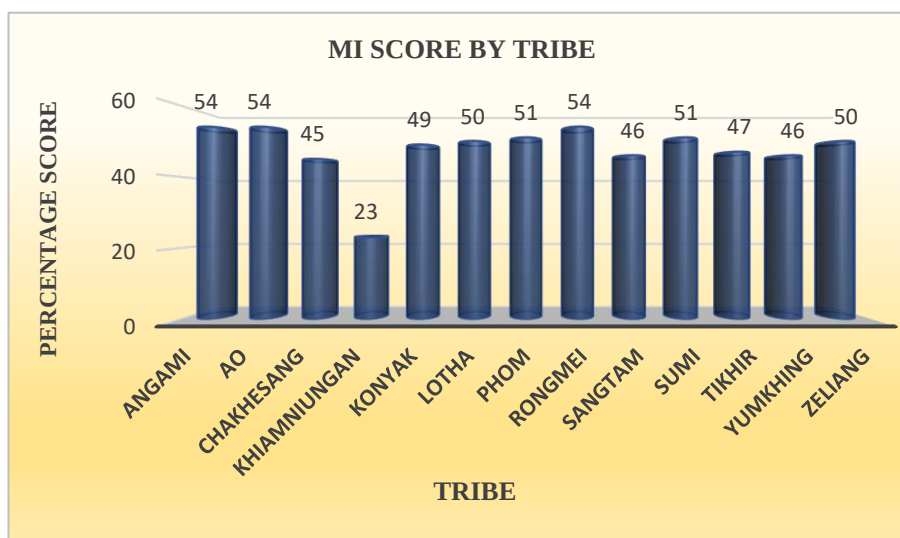
4.4. Multiple Intelligence

Table 4.2.0: MI Score by Tribe

TRIBE	SCORE %
ANGAMI	54
AO	54
CHAKHESANG	45
KHIAMNIUNGAN	23
KONYAK	49
LOTHA	50
PHOM	51
RONGMEI	54
SANGTAM	46
SUMI	51
TIKHIR	47
YUMKHING	46
ZELIANG	50

Source: Field Data

Figure 4.2.0: MI Score by Tribe



The above table and graphics display the total MI score of 10 tribal students from different classes in Nagaland. Three tribes, Angami, Ao, Phom, Rongmei, and Sumi, have secured an overall score above 50%. Zeliang, Lotha, and Sumi secured 50% and 50 %, respectively. The Khamniungan has a minimum score of 23%, whereas the other tribes have average scores.

We now shift our attention to different MI scores. The following table and graphics will display the scores of eight intelligences.

Table 4.2.1: Mathematical Intelligence

TRIBE	MI %
ANGAMI	54.11
AO	54.04
CHAKHESANG	45.33
KHIAMNIUNGAN	22.67
KONYAK	48.46
LOTHA	49.29
PHOM	50.93
RONGMEI	54.17
SANGTAM	46.27
SUMI	51.33
TIKHIR	47.37
YUMKHING	45.71
ZELIANG	50.24

Source: Field Data

Of all the tribes, the Rongmei tribe scores the highest in mathematical intelligence. The Angami, Ao, Phom, Sumi, and Zeliang tribes follow this.

Figure 4.2.1: Mathematical Intelligence

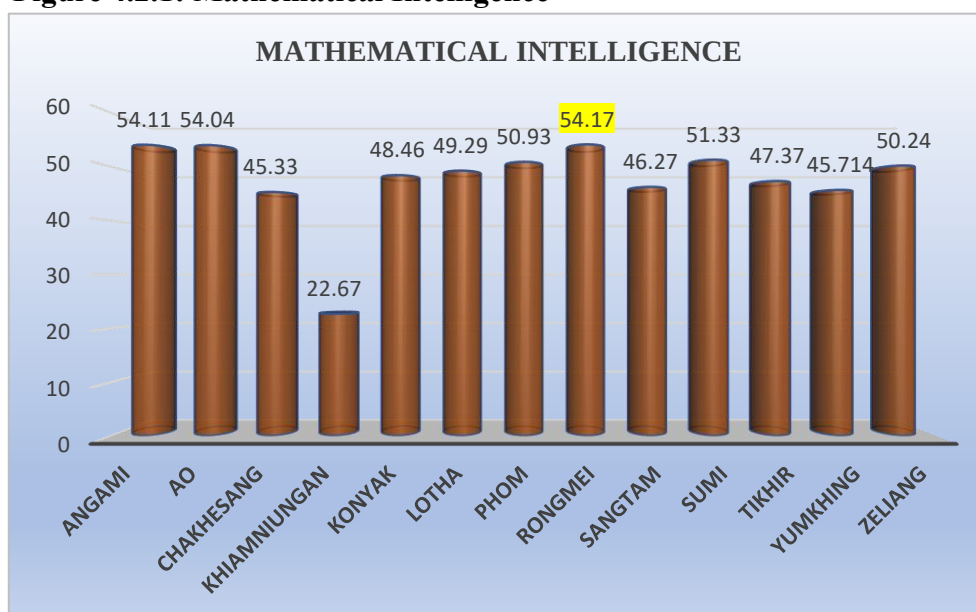


Table 4.2.2: Interpersonal Intelligence

TRIBE	IP %
ANGAMI	74
AO	68.65
CHAKHESANG	55.33
KHIAMNIUNGAN	27.67
KONYAK	71.54
LOTHA	70.24
PHOM	74.16
RONGMEI	60
SANGTAM	72.04
SUMI	72.96
TIKHIR	70
YUMKHING	72.86
ZELIANG	68.35

Source: Field Data

The Phom tribe scored the highest in interpersonal intelligence, followed by Angami, Sumi, Yumkhing, Sangtam, and Konyak. Out of thirteen tribes, eight secured high scores in interpersonal relationships, one of the highest scores of the eight intelligences.

Figure 4.2.2: Interpersonal Intelligence

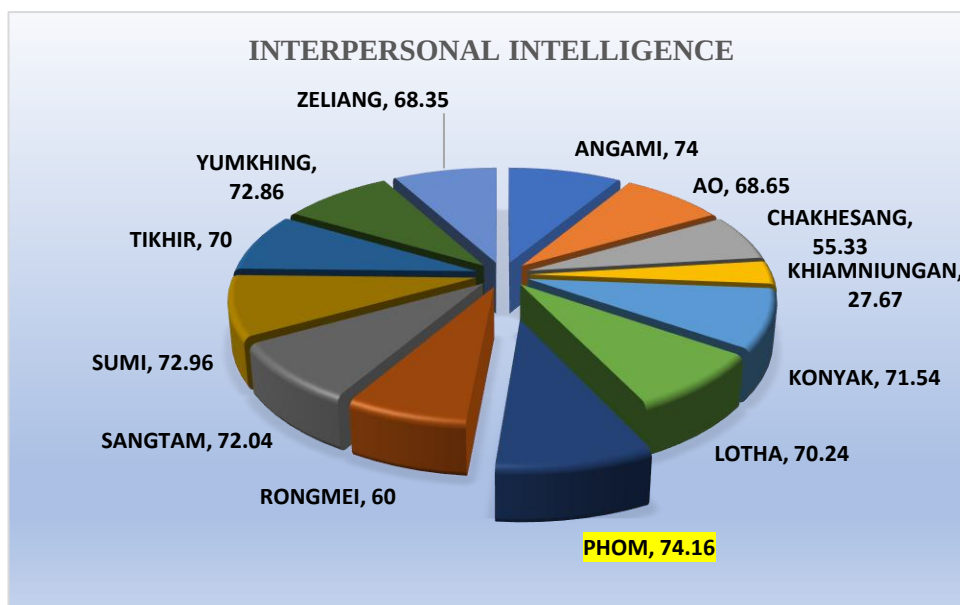


Table 4.2.3: Linguistic Intelligence

TRIBE	LIN
ANGAMI	67.22
AO	63.27
CHAKHESANG	55
KHIAMNIUNGAN	27.5
KONYAK	70
LOTHA	62.14
PHOM	67.35
RONGMEI	59.17
SANGTAM	67.32
SUMI	69.39
TIKHIR	52.37
YUMKHING	63.571
ZELIANG	62.37

Source: Field Data

Konyak is the only tribe to achieve 70 percent in linguistic intelligence. No other tribe has reached this score; the other tribes are around 60 percent. The Chakhesang and Khamniungan tribes secured the minimum in this score.

Figure 4. 2.3: Linguistic Intelligence

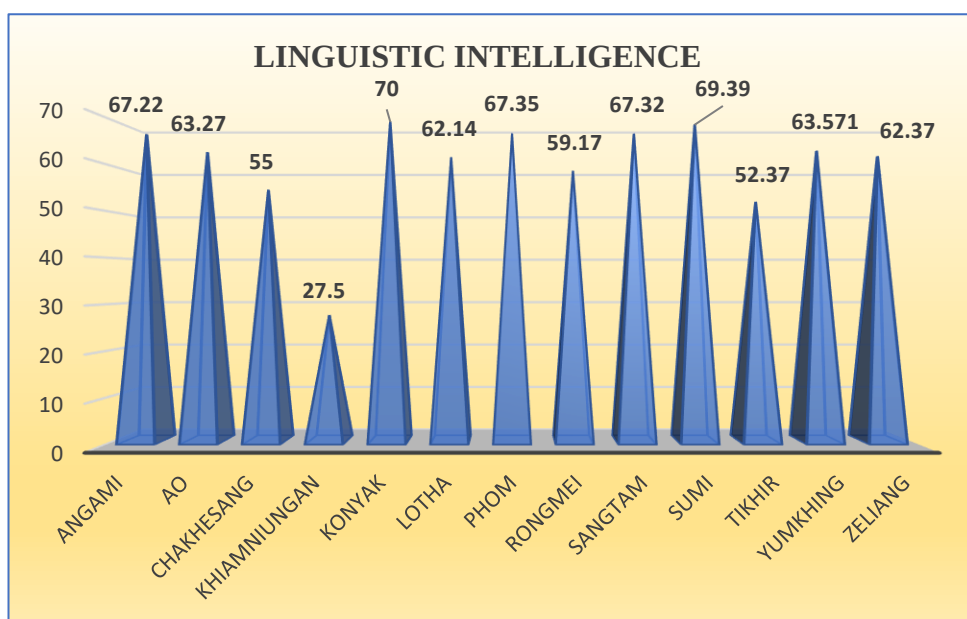


Table 4.2.4: Musical Intelligence

TRIBE	MU
ANGAMI	62
AO	64.04
CHAKHESANG	53.67
KHIAMNIUNGAN	26.83
KONYAK	55.38
LOTHA	62.38
PHOM	58.14
RONGMEI	67.5
SANGTAM	57.54
SUMI	58.57
TIKHIR	50.79
YUMKHING	57.14
ZELIANG	54.75

Source: Field Data

The Rongmei tribe secured the highest score in musical intelligence, followed by the Ao, Angami, and Lotha tribes. The other tribes also scored marginally lower, but the difference was not insignificant.

Figure 4.2.4: Musical Intelligence

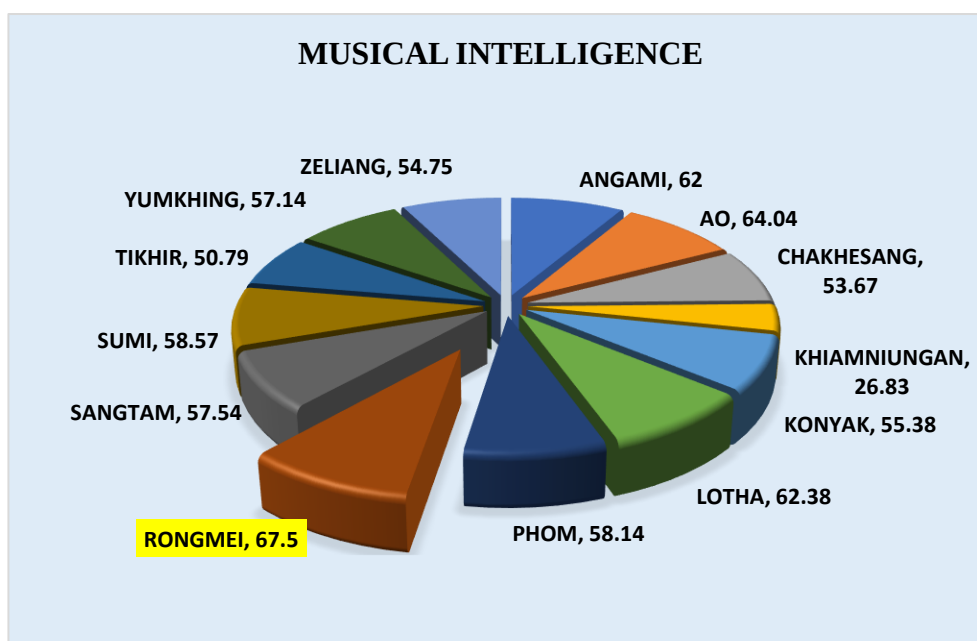


Table 4.2.5: Physical Intelligence

TRIBE	PI
ANGAMI	70.67
AO	63.03
CHAKHESANG	56.67
KHIAMNIUNGAN	28.33
KONYAK	71.15
LOTHA	62.62
PHOM	62.3
RONGMEI	63.33
SANGTAM	59.86
SUMI	65.41
TIKHIR	56.84
YUMKHING	70
ZELIANG	59.08

Source: Field Data

In physical intelligence, Konyak scored the highest with 71.15 %, followed by the Angami tribes at 70.67% and the Yukhming tribes at 71.67%. As we can see from the above data, the other tribes scored around the same, though there was not much difference in their scores.

Figure 4.2.5: Physical Intelligence

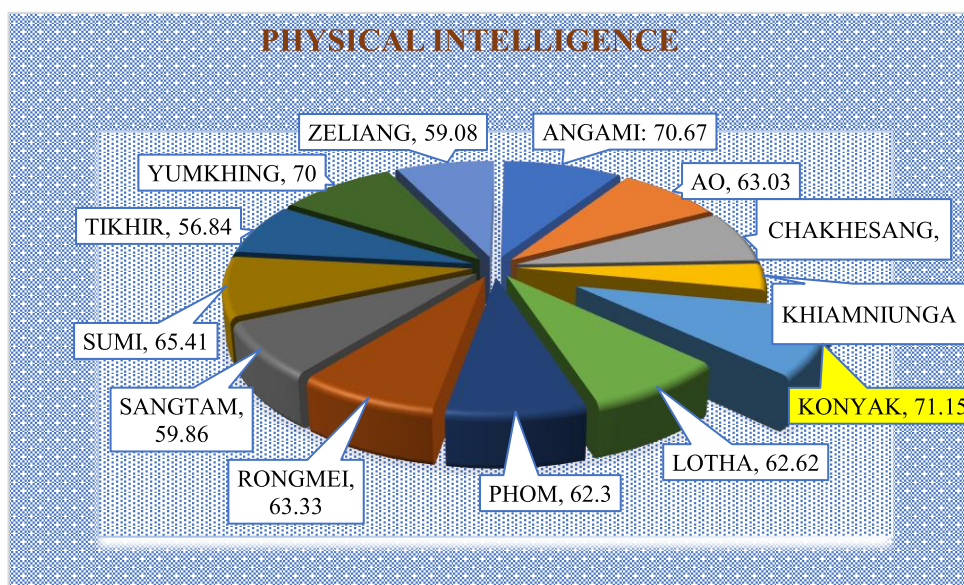


Table 4.2.6: Visual Intelligence

TRIBE	VI
ANGAMI	54.89
AO	52.45
CHAKHESANG	48.67
KHIAMNIUNGAN	24.33
KONYAK	56.15
LOTHA	51.19
PHOM	51.11
RONGMEI	46.67
SANGTAM	46.13
SUMI	48.98
TIKHIR	44.21
YUMKHING	45
ZELIANG	50.79

Source: Field Data

In visual intelligence, the Konyak tribe scored the highest, 56.15%. The other tribes' scores ranged from 45% to 50 % without significant differences, except for the Khamniungan tribe, with a 24.33 % score.

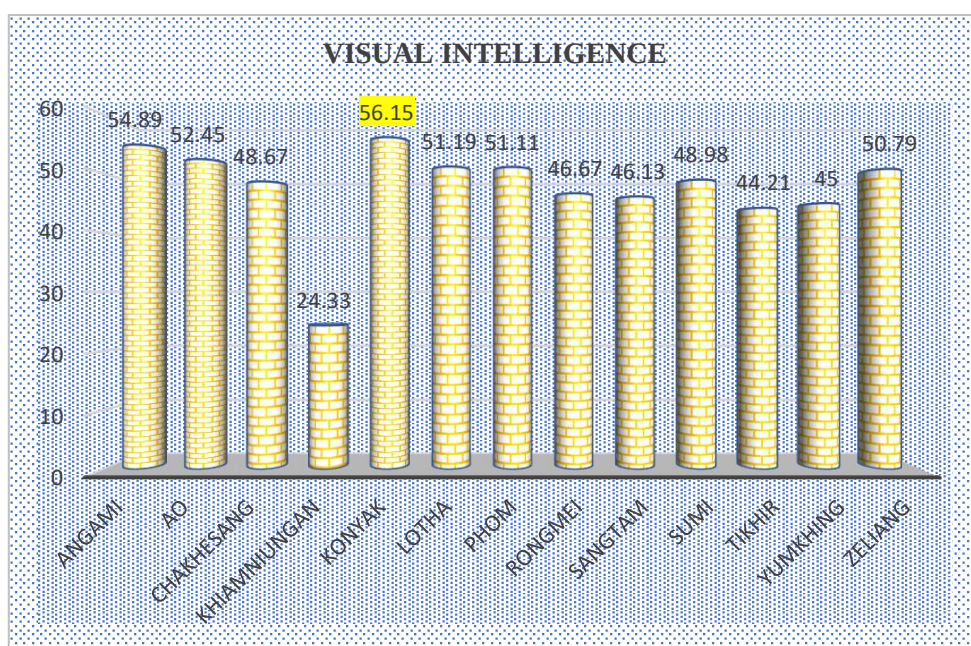
Figure 4.2.6: Visual Intelligence

Table 4.2.7: Intrapersonal Intelligence

TRIBE	INP %
ANGAMI	67.11
AO	67.02
CHAKHESANG	65
KHIAMNIUNGAN	32.5
KONYAK	71.92
LOTHA	62.38
PHOM	67.65
RONGMEI	65.83
SANGTAM	73.73
SUMI	71.02
TIKHIR	56.32
YUMKHING	66.43
ZELIANG	65.48

Source: Field Data

In the intrapersonal intelligence, the Sangtam tribe was followed by the Konyak and Sumi tribes. The other tribes are between 60 % and 65%, except for the Khamniungam tribe, scoring 32.5% in this intelligence.

Figure 4.2.7: Interpersonal Intelligence

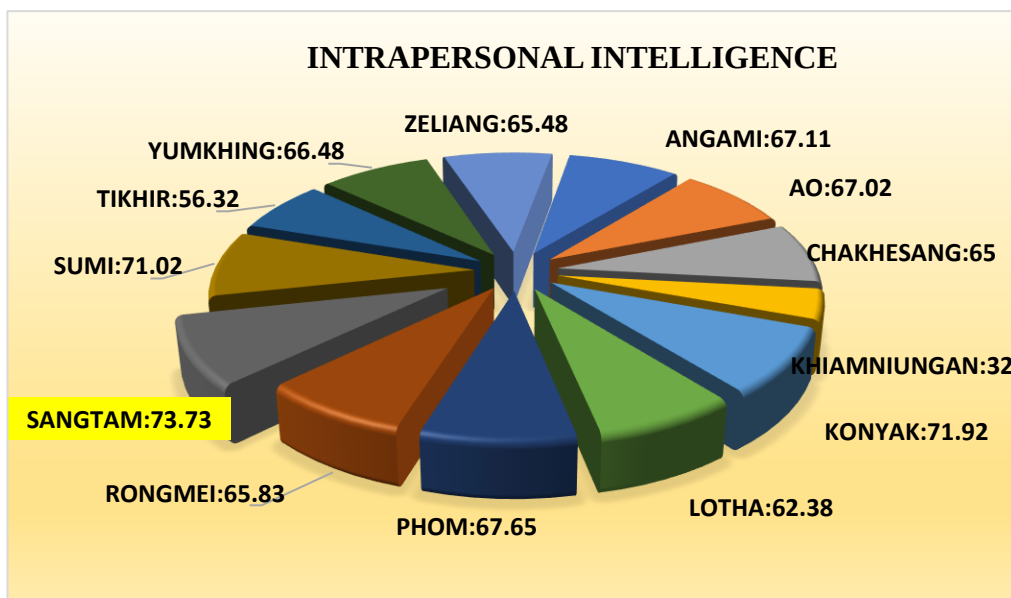


Table 4.2.8: Natural Intelligence

TRIBE	NI %
ANGAMI	71.67
AO	65.96
CHAKHESANG	60
KHIAMNIUNGAN	30
KONYAK	70
LOTHA	60.71
PHOM	71.64
RONGMEI	65.83
SANGTAM	64.08
SUMI	72.14
TIKHIR	65
YUMKHING	69.29
ZELIANG	73.35

Source: Field Data

In natural intelligence, the Zeliang tribe scored the highest, with 73.35%, followed by the Sumi tribe and the Angami and Phom tribes. The other tribes in the society range from 60 % to 69%.

Figure 4.2.8: Natural Intelligence

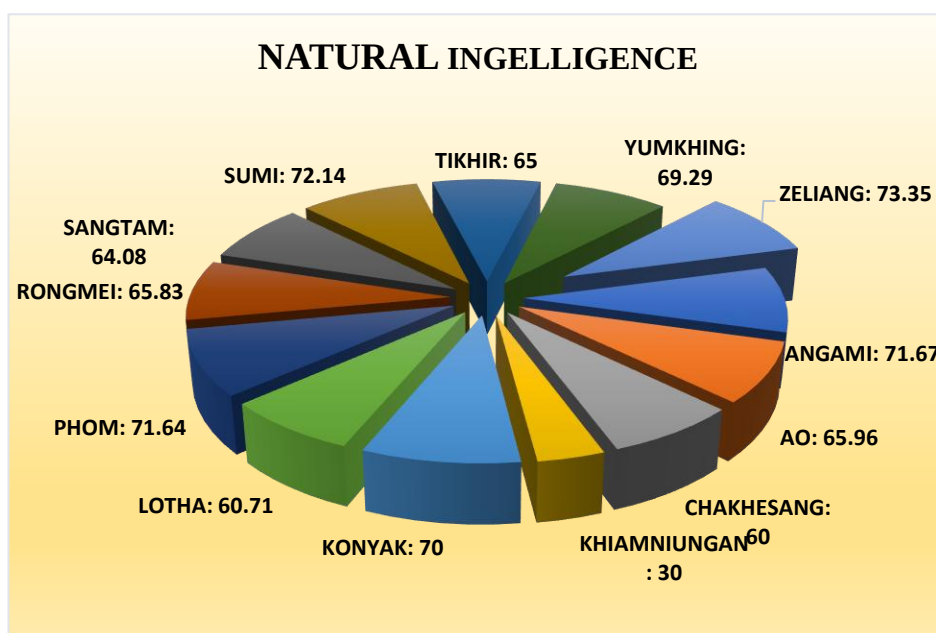


Table 4.2.9: Multiple Intelligence score according to the district

District	Gender	MI	IP	LI	INP	MU	PI	VI	NI
Kohima	Female	46.64	69.2	65	69.57	60.17	61.72	51.38	69.14
	Male	59.77	69.2	63.18	63.93	60.91	69.09	54.32	66.48
Mokokchug	Male	52.40	68.56	61.15	66.83	62.69	67.98	53.27	66.92
	Female	51.3	71.2	66.8	68.3	64	60.9	51.9	70
Dimapur	Male	53.52	69.3	61.3	65.19	56.48	64.26	49.63	63.33
	Female	49.39	72.8	68.66	69.63	56.48	64.26	49.63	63.33
Kiphire	Female	44.63	69.7	63.52	73.8	54.91	53.98	41.57	60.56
	Male	45.76	73.3	61.96	61.41	56.3	65	49.35	66.63
Longleng	Male	53.67	74.5	69.8	66.53	58.47	67.55	55.82	74.69
	Female	50.28	75	66.94	69.54	59.17	60	48.33	70.28
Peren	Male	55.2	66.6	62.76	62.55	55.61	63.67	52.35	69.59
	Female	45.64	67.8	62.98	67.87	55.32	54.79	47.66	74.79

Source: Field Data

The above table indicates the percentage score of multiple intelligence across six districts of Nagaland, which is representative and indicative of the nature of multiple intelligence scores across the State. The Interpersonal Intelligence is the dominant score of multiple intelligences, followed by natural intelligence.

4.5.Objective-1: To investigate the differences in Multiple Intelligences concerning the demographic variables of Class X Tribal Students

Table4.3.0: Percentage Analysis of MI Score of Different Tribes

TRIBE	SCORE
ANGAMI	54
AO	54
CHAKHESANG	45
KHIAMNIUNGAN	23
KONYAK	49
LOTHA	50
PHOM	51
RONGMEI	54
SANGTAM	46
SUMI	51
TIKHIR	47
YUMKHING	46
ZELIANG	50

Table 4.3.2 shows the multiple intelligence scores of different tribes. Konyak tribes score the highest on the three dimensions of intelligence: linguistic, physical, and visual. The Rongmei tribe, on the other hand, has scored the highest on mathematical and musical intelligence. The Sangtam tribe scored the highest on intrapersonal intelligence. The Zeliang tribe has scored the highest in natural intelligence.

Figure 4.3.1: MI Score by Tribe

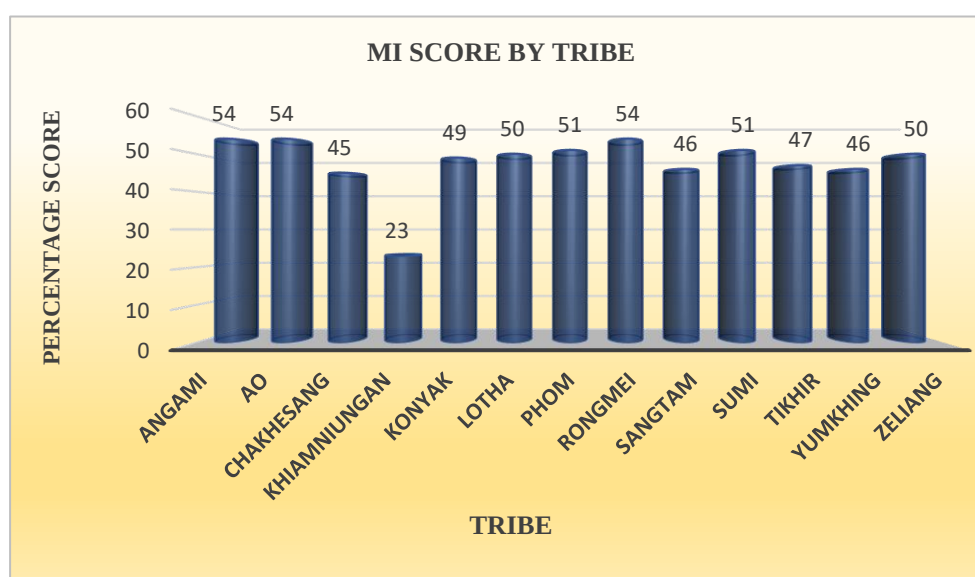


Table 4.3.1: MI Score of Boys and Girls

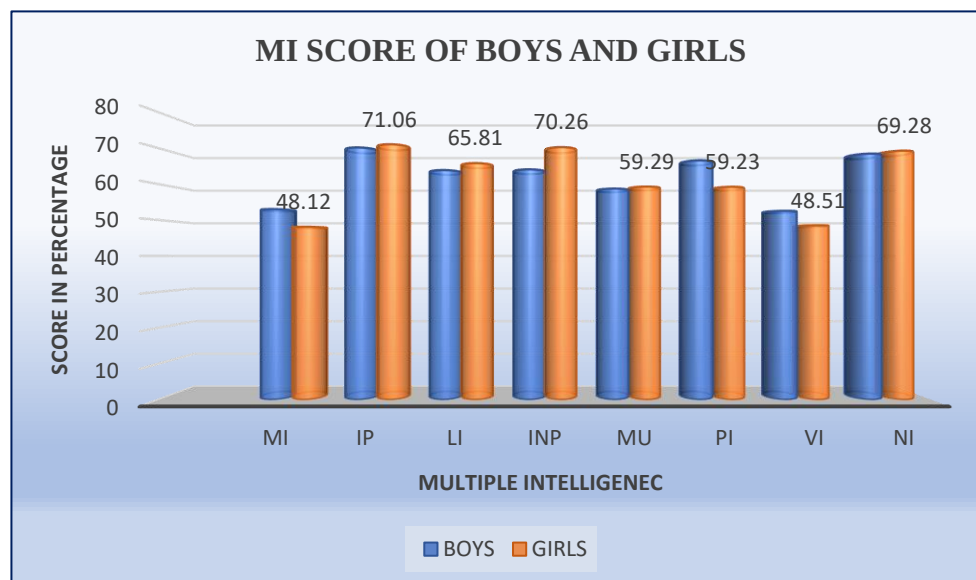
GENDER	SCORE							
	MI	IP	LI	IN P	M U	PI	VI	NI
BOYS	53. 03	70. 17	63. 87	64. 08	58. 73	66. 57	52. 55	68. 46
GIRLS	48. 12	71. 06	65. 81	70. 26	59. 29	59. 23	48. 51	69. 28

Source: Field Data

The above table shows the multiple intelligence scores of boys and girls. Both score within the same range on interpersonal intelligence. However, for boys, physical and natural intelligence form the dominant scores, with 70.17 % and 68.46%, respectively.

Conversely, the girls scored interpersonal and intrapersonal intelligence at 71.06% and 70.26%, respectively. The figure below reflects the MI scores of boys and girls.

Figure 4.3.2: MI scores of Boys and girls



4.6.Hypothesis Testing

4.6.1. Hypothesis H_{01} : There is no significant difference in Multiple Intelligence between boys and girls of secondary students.

Table 4.3.2: t-test for MI Score of Boys and Girls

Description	Boys	Girls	p
Mean	63.49	63.35	0.97
Variance	36.95	66.99	
Hypothesized Mean Difference	0		

Source: Field Data

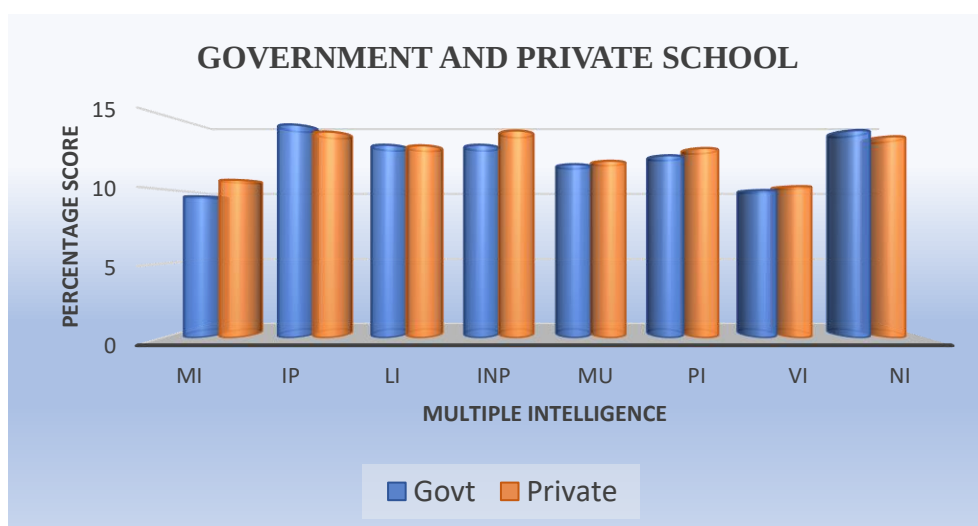
Statement: The t-test showed no statistically significant difference in Multiple Intelligence scores between boys and girls. The t-test value of 0.97 is much higher than the considerable value of 0.05. therefore, we fail to reject the null hypothesis that there is no significant difference in multiple intelligence between boys and girls in secondary school.

Table 4.3.3: MI Scores of Governments and Private Schools

School	MI	IP	LI	INP	MU	PI	VI	NI
Government	9.53	14.37	13.00	13.00	11.69	12.29	9.95	13.99
Private	10.64	13.89	12.96	13.96	11.92	12.78	10.21	13.57

Source: Field Data

The scores of government schools concerning interpersonal and natural intelligence are higher than those of private schools. However, the mean scores of mathematical and visual intelligences are higher than those of government schools. The figure below shows the comparative results of multiple intelligences of government and private schools.

Figure 4.3.3: MI Score by Management

4.6.2. Hypothesis H_{02} : There is no significant difference in multiple intelligence of private and government schools.

Table 4.3.4:t-test, Two-sample tests of government and private schools

SCHOOL TYPE	MEAN	VARIANCE	t	LS
Government	12.23	3.09	-0.328	NS
Private	12.49	2.09		

Source: Field Data

Statement: The p-value 0.74 exceeds the threshold significant value of 0.05 level. Therefore, we fail to reject the null hypothesis that there is no significant difference of multiple intelligence across school types: government and private schools.

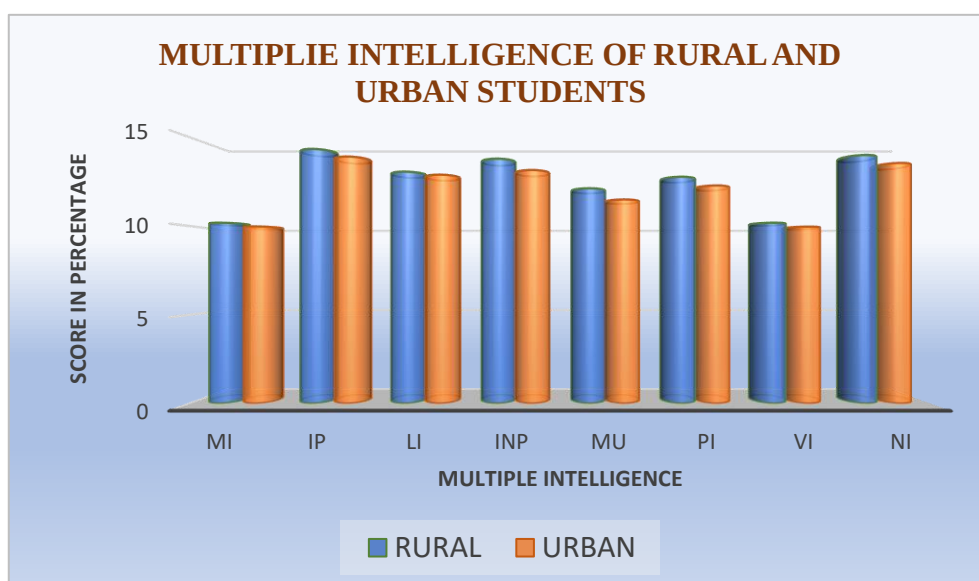
Table 4.3.5: MI Scores of Rural and Urban Schools

LOCALITY	MI	IP	LI	INP	MU	PI	VI	NI
RURAL	10.19	14.35	13.07	13.80	12.13	12.78	10.19	14.01
URBAN	9.98	13.92	12.90	13.16	11.50	12.29	9.97	13.56

Source: Field Data

As we can see from the table below, the Multiple intelligence scores of rural and urban schools do not vary much. There is hardly any variation in terms of their scores. Natural, interpersonal, and intrapersonal intelligence are higher than the other scores.

Figure 4.3.4: MI Score by Location



4.6.3. Hypothesis H₀₃: There is no significant difference in multiple intelligences between the urban and rural students.

Table 4.3.6: t-test for the Means of Urban and Rural

LOCALITY	MEAN	SD	F	t	p
Urban	12.31	2.23	1.7	.520	0.188
Rural	12.40	1.88			

Source: Field Data

Statement: The independent sample t -test result shows the value of $p=0.188 > \alpha=0.05$ exceeding the threshold value of the significant level, therefore, we accept the null hypothesis that there is no significant difference of multiple intelligence score across urban and rural students.

4.6.4. Hypothesis H₀₄: There is no significant difference of multiple intelligence of birth positions of the family.

Table 4.3.7: Kruskal-Wallis test for Different Birth Positions

Null Hypothesis	Test	Sig	Decision
The distribution of Mean of MI is the same across categories of birth position.	Independent Samples- Kruskal-Wallis test	0.326	Retain the null hypothesis

Source: Field Data

Statement: The independent sample Kruskal-Wallis test shows that the value of $p=0.32 > \alpha=0.05$, crossing the significance level. Therefore, we accept the null hypothesis stating that there is no significant difference in the mean score of multiple intelligences across the categories of birth position in the family.

4.6.5. Hypothesis H₀₅: There is no significant difference of multiple intelligence scores across the tribes of Nagaland

Table 4.3.8: Kruswallis test for MI across Nagaland

Null Hypothesis	Test	Sig	Decision
The distribution of Mean of MI is the same across categories of tribes.	Independent Samples- Kruskal-Wallis test	0.003	Reject the null hypothesis

Source: Field Data

Statement: The independent samples -Kruskal-Wallis test indicates a p-value of 0.003 $< \alpha = 0.05$; therefore, we reject the null hypothesis that there is no significant difference in multiple intelligence scores across the tribes of Nagaland.

4.7.Objective 2: To study the relationship between Multiple Intelligence, Academic Achievement, and Study Habits of Class X Tribal Students

Table 4.3.9: Carl Pearson Correlation Test Table

VARIBALES & RELATIONS		Mean SH	Mean MI	Mean AA	N
Mean of Study Habits	Pearson Correlation	1	-.276**	-.038	600
	Sig. (2-tailed)		0	0.347	
Mean of Multiple Intelligence	Pearson Correlation	-.276**	1	.107**	
	Sig. (2-tailed)	0		0.009	
Mean of Academic Achievement	Pearson Correlation	-.038	.107**	1	
	Sig. (2-tailed)	0.347	0.009		

Source: Field Data **. It is significant at the 0.01 level (2-tailed)

Means of Study Habits and Multiple Intelligence: The Pearson correlation value of -0.27 and the p-value of 0.00 indicate a moderate negative correlation. The p-value is less than the threshold value of 0.01; therefore, the

correlation is statistically significant. A moderate negative correlation exists between the mean of study habits and the mean of MI. This means that as the value of study habits increases, the mean of MI decreases, and vice versa. The two variables move in opposite directions, as the negative sign of the correlation value indicates. The statistical significance (p-value of 0.000) suggests this relationship is a real and meaningful association.

Means of Study Habits and Academic Achievement: Here, the Pearson correlation value is -0.03, and the p-value is 0.34, indicating a weak negative correlation between study habits and academic achievement. The p-value of 0.34 is greater than the threshold value of 0.05, indicating that the correlation is not statistically significant.

Means of Multiple Intelligence and Study Habits: The Pearson correlation value of 0.10 indicates a positive and weak relation between the mean of MI and the mean of study habits. However, the p-value of 0.009 indicates that this relation is statistically significant. It implies a small but fundamental relationship between these two variables.

4.7.1. A two-way ANOVA test to examine the effects of study habits and gender on academic achievement

Table 4.4.0: Mean of Academic Achievement

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	15780.80 ^a	120	131.51	1.29	0.03	0.24
Intercept	326272.4	1	326272	3199.72	0	0.87
means	5272.12	44	119.82	1.18	0.21	0.1
Gender	458.56	4	114.64	1.12	0.34	0.01
Mean * Gender	8534.29	72	118.53	1.16	0.18	0.15
Error	48843.16	479	101.97			

Source: Field Data

The analysis shows that the model is statistically significant at an F value of 1.29 and a p-value of 0.033, indicating that the combination of factors (study habits, gender, and their interaction) explained a substantial portion of the variance in academic achievement.

The main effect of study habits was not statistically significant, $F=1.18$, $p=.21$, suggesting that differences in study habits levels did not significantly affect academic achievement. Here, the value of $p>0.05$; therefore, there is no evidence to conclude that the independent variable affects the dependent variable. However, it should be noted that it does not necessarily mean no effect; it simply means the data does not provide strong enough evidence to support a statistically significant effect between study habits and academic achievement. Similarly, the main effect of gender was not statistically significant, $p=.34$, which exceeds the considerable value of 0.05 level, thus indicating that gender differences did not significantly influence academic achievement. The interaction effect between study habits and gender was also not statistically significant, with $p = .18$ exceeding the considerable value of 0.05. This suggests that the impact of study habits on academic achievement did not vary significantly across genders.

4.8.Objective 3: To examine if study habits, academic achievement, and socioeconomic status will significantly influence Multiple Intelligence.

Table 4.4.1: Multiple Regression Test

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.347	0.865		18.897	0
	means	-1.874	0.268	-0.274	-6.989	0
	Mean AA	0.019	0.008	0.093	2.366	0.018
	Socio-economic	-0.08	0.102	-0.031	-0.783	0.434

Source: Field Data

A multiple regression analysis examined the contributions of study habits, academic achievement, and socio-economic status to predicting various intelligences. The regression coefficient values explained the relationship.

1. **Study Habits:** There is a significant negative predictor of multiple intelligence, $B=-1.874$, $p<.001$, suggesting that higher study habits scores were associated with lower multiple intelligence scores. The standardized coefficient $\beta=-.274$ indicates a moderate negative relationship.
2. **Academic Achievement:** There is a significant positive predictor of multiple intelligence, $p = .01$, indicating that higher academic achievement scores were associated with higher multiple intelligence scores. The standardized coefficient $\beta=.09$ suggests a small positive effect.
3. **Socio-Economic Status:** There is no significant predictor of multiple intelligence, $p = .43$ and $\beta=-.03$. This suggests no meaningful relationship between socioeconomic status and multiple intelligence.

4.8.1. A two-way ANOVA test on the effects of Gender and School Type on Multiple Intelligence

Table 4.4.2: A two-way ANOVA test

Source	Sum of Squares	df	Mean Square	F	p
Corrected Model	110.91	7	15.85	3.77	0.001
Intercept	30830.81	1	30830.81	7331.40	0.000
Error (Residuals)	2489.55	592	4.21		
Corrected Total	2600.46	599			

Source: Field Data

In the corrected model, the value of $p=0.001$ is greater than the designated value of $\alpha=0.05$, which signifies that there is a significant variance between gender and school type on the score of multiple intelligence. This variance is not great;

however, it explains that there is a significant factor contributing to the score of multiple intelligence under these two domains.

Table 4.4.3: Effects of Gender and School on MI

Factor	Sum of Squares	df	Mean Square	F	p
Gender	33.09	3	11.03	2.62	0.05
School Type	7.08	1	7.08	1.68	0.195

Source: Filed Data

The value of $p=0.05$, equal to and greater than the threshold value of $\alpha=0.05$, signifying a difference in the score of multiple intelligences between genders. However, the difference is marginal and at the borderline level, which is, in a way, a weak effect. In the school type, the obtained value of $p=0.195$ exceeds the normal value of $\alpha=0.05$; therefore, the school type does not necessarily impact the score of multiple intelligence.

Table 4.4.4: Factor Interaction of Gender and School on Multiple intelligence

Factor Interaction	Sum of Squares	df	Mean Square	F	p
Gender and School	15.82	3	5.27	1.25	0.28

Source: Field Data

The obtained value of $p=0.28$ exceeds the threshold value of $\alpha=0.05$. Therefore, we can conclude that the interaction effect, that is, school type and gender, is not significant. In other words, the output effect of gender on multiple intelligence scores does not rely upon the nature of the school type.

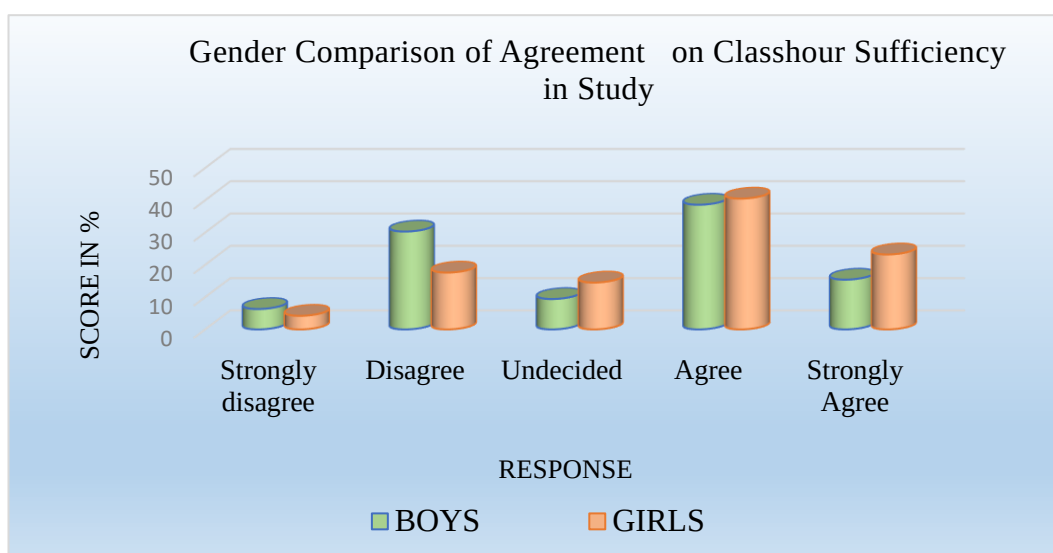
4.9. Study Habit Analysis

Table 4.4.5: Class-hour Teaching is Enough for Me to Study

GENDER	RESPONSE					TOTAL
	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree	
BOYS	6.3	30.3	9.4	38.6	15.4	100
GIRLS	4.2	17.6	14.5	40.5	23.2	100

Source: Field Data

Figure 4.4.5: Gender Comparison on Class Hours Sufficiency in Study



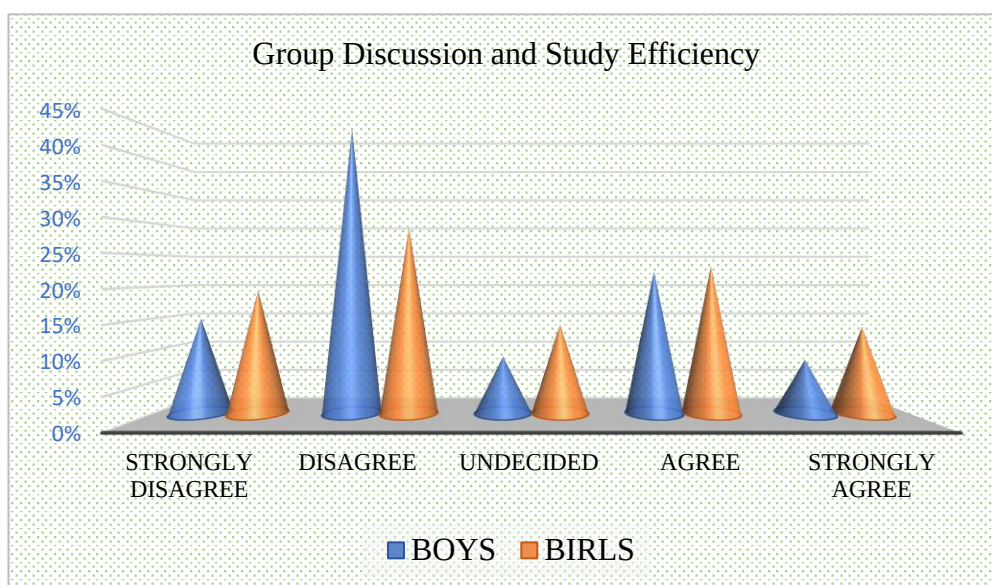
Many boys disagree that class-hour lectures are insufficient to prepare them for study. 36% of boys disagree with this statement. The girls, on the other hand, have a lower percentage of this response. However, on the agreement percentage, both boys and girls have better responses regarding class hours lectures in preparing them to study and making them understand their lessons. Girls have a higher rate in this regard, with 40.5% agreement. Regarding the undecided response, the girl's response was higher, at 14.5%. They may indicate dissatisfaction with teachers' handling of exposing the topic for classroom interactions. In short, boys tend to disagree that class hours teaching are enough. Meanwhile, the girls tend to agree strongly that class-hour interactions are sufficient for them to study and comprehend their lessons.

Table 4.4.6: I Study Better When Discussed with Friends

GENDER	RESPONSE					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
BOYS	15	45	9.00	22.50	8.50	100%
BIRLS	19.50	29.40	14.10	23.30	13.70	100%

Source: Field Data

Figure 4.4.6: I Study Better when Discussing with Friends



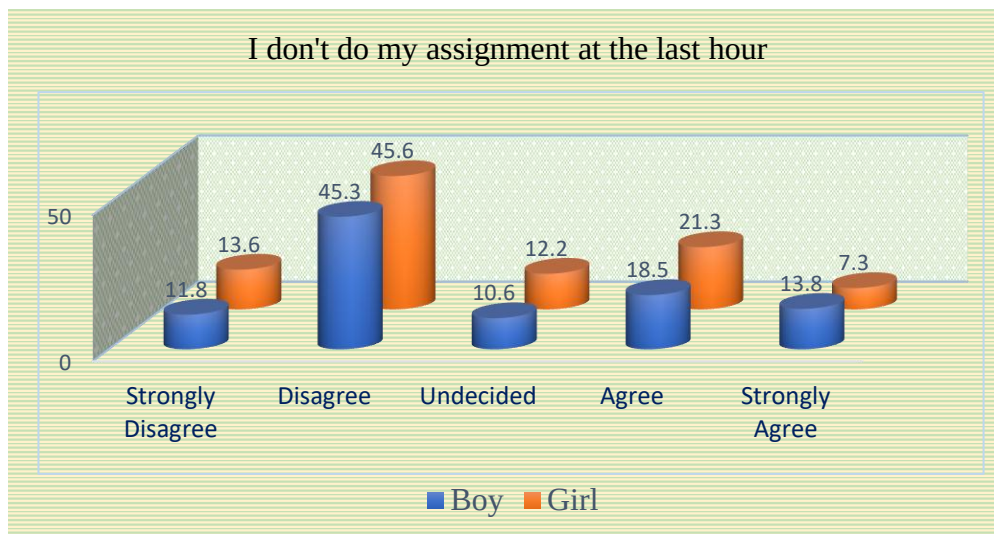
Girls tend to agree more on the need for peer discussion at the peer level for studying. Peer discussion tends to be more for girls. However, boys are less likely to use this method of learning. As for boys, 60.3% disagree with this technique of studying, while 37% of girls favor this method of studying. What is surprising is that there is a more significant percentage of disagreement from the girl's side against the boys. Even in the undecided section, girls show more data than boys.

Table 4.4.7: I don't do My Assignment at the Last Hour

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	11.8	45.3	10.6	18.5	13.8	100
Girl	13.6	45.6	12.2	21.3	7.3	100

Source: Field Data

The primary score of the table is the disagreement with the statement about not doing the assignment at the last hour. Boys score 57.1%, while girls score 59.2%. In agreement with the statement, boys score 32.3%, while girls score 28.6%. Girls have a higher percentage of procrastinating their assignments at the last hour. This indicates that boys tend to be more disciplined in doing their homework and not waiting until the last minute. The agreement ratio is higher for boys, suggesting that boys manage their time better than girls.

Figure 4.4.7: Assignment at the Last Moment**Table 4.4.8: χ^2 test on Gender and Assignment Procrastination**

Statistics	Value	df	p-value (Sig.)
Pearson Chi-Square	25.643	12	0.012
Likelihood Ratio	24.243	12	0.019
Linear-by-Linear Association	2.533	1	0.111

Source: Field Data

The Chi-Square result of gender on assignment procrastination shows a statistically significant relationship as the χ^2 value of 24.643 and $p = 0.012$, indicating a significant relationship between them. Here, the p-value is smaller than the $\alpha = 0.05$, hence the difference. The likelihood ratio value of $p = 0.11$ substantiates this finding. The linear-by-linear association value of $pp = 0.111$ suggests that the direction is not linear. Both boys and girls show a tendency to procrastinate. However, this is a common phenomenon for both, regardless of gender. The lack of linear direction suggests that other factors may influence procrastination behaviour.

Table 4.4.9: My Teachers Help Me with My High Academic Record

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	23.20	47.60	18.10	8.30	2.80	100
Girls	18.50	49.10	22.30	7.00	3.10	100

Source: Filed Data

Teachers' role in mentoring boys to achieve a good academic record is low. For boys, 70.8% speak well, while for girls, it is 67.6%. Only a tiny percentage of both boys and girls feel their teachers support them through academic support. However, 22.305 girls are not sure of the support their teachers provide in preparing their lessons. Most students think their teachers do not contribute to their high academic achievement. The graphical representation will speak for the same

Figure 4.4.8: Teacher's Role in Academic Achievement

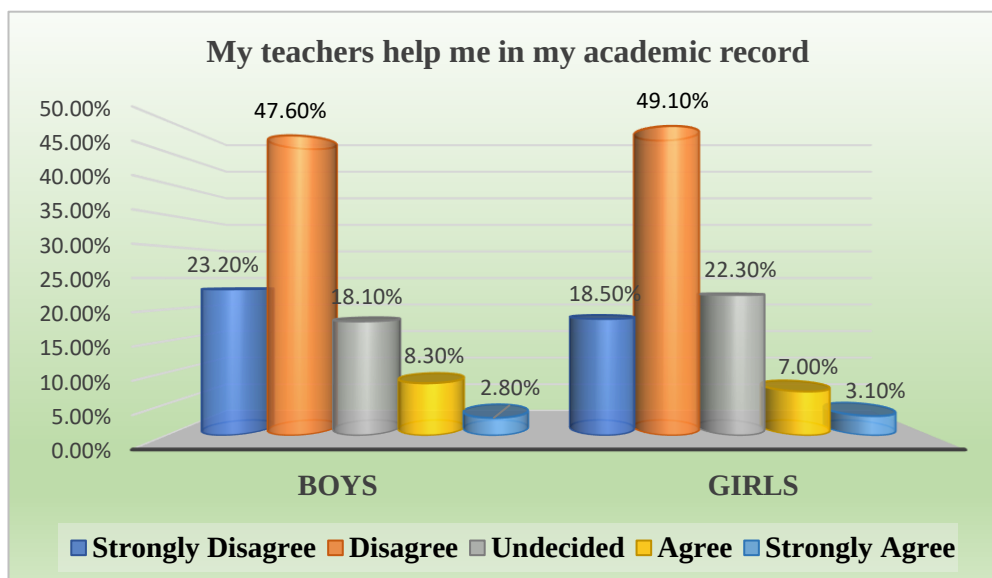
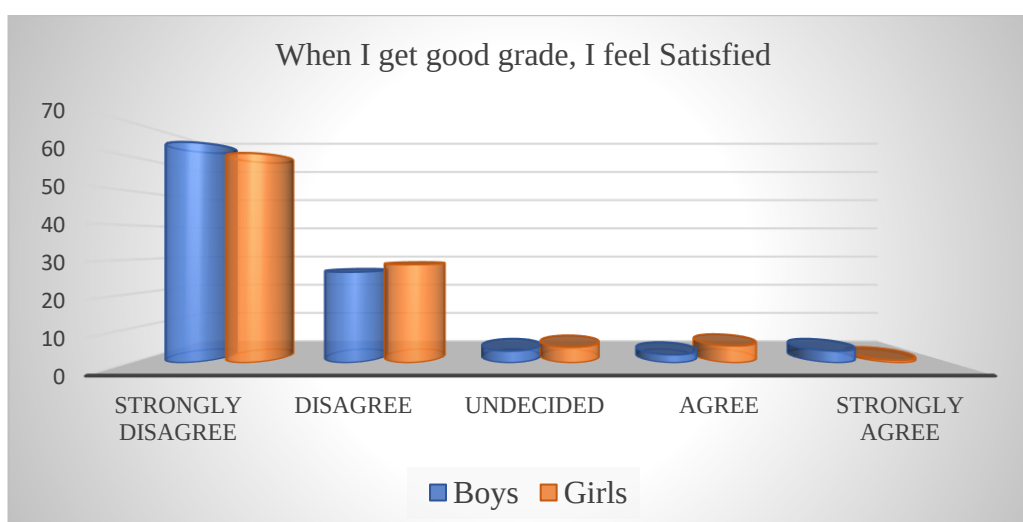


Table 4.5.0: When I Study Hard and Get Good Grades, I Feel Satisfied

GENDER	RESPONSE					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	64.2	26.4	3.5	2.4	3.5	100
Girls	61	28.6	4.6	5	0.8	100

Source: Field Data

Figure 4.4.9: Academic Achievement and Satisfaction



Contrary to popular belief, the feel-good factor in academic achievement has not motivated students to study hard and aspire for higher grades. The table and

the histogram chart show that both boys and girls strongly disagree that high grades in academic achievement are the motivating factor for studying hard and maintaining the status quo. Boys have 64.2%, while girls have 60 % disagreement on this variable of good grades and study habits.

Table 4.5.1: It is My Ambition That Motivates Me to Study Hard

GENDER	RESPONSE					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	36.6	42.1	13.8	4.7	2.8	100
Girls	51.5	34.8	8.4	3.8	1.5	100

Ambition is not the motivating factor in driving students to study hard. Both boys and girls disagree that their ambitions are the sole force behind studying hard. The percentage is higher for girls, with 51.5% disagreeing that ambition motivates their study habits. The boys, on the other hand, have 36.6 % disagreeing on this matter. Their undecided value is again higher than the girls', with 13.8%, against the girls' score, with 8.4%. The boys again have higher scores on agreeing and strongly agreeing that ambition is their determining force in study habits.

Figure 4.5.0: Ambition and Study Habit

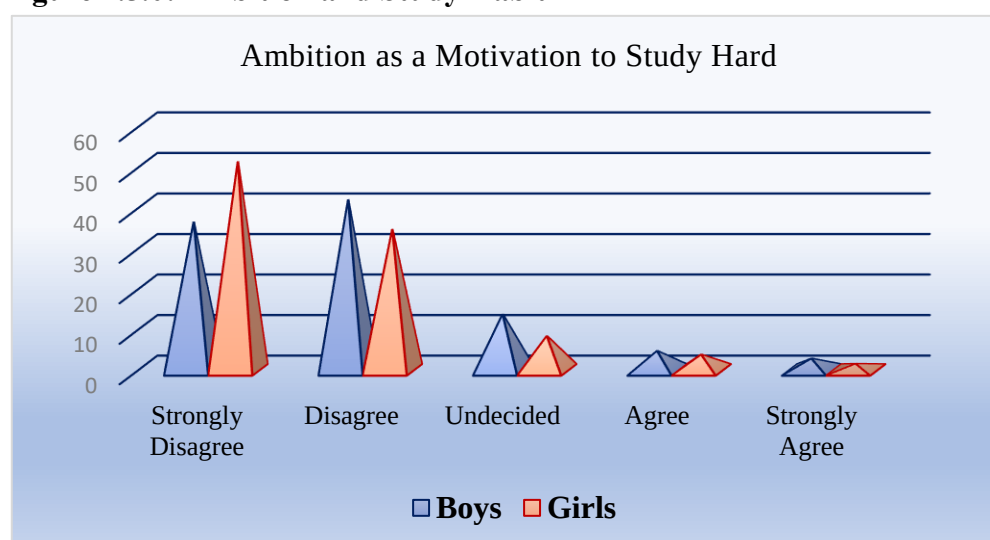
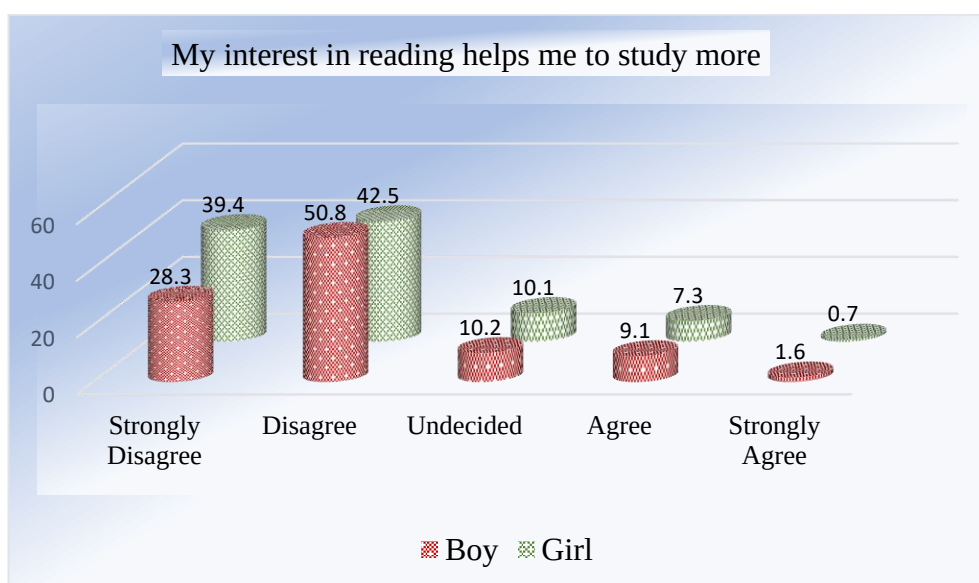


Table 4.5.2: My interest in reading helps me to study more

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	28.3	50.8	10.2	9.1	1.6	100
Girl	39.4	42.5	10.1	7.3	0.7	100

Source: Field Data

The above tables indicate the responses to the statement, reading, and academic achievement. Most of the students' responses fall under the disagree category. Boys' score is 89.1%, while girls' score is 81.9%. Only 10.7% of boys realize the importance of reading in supplementing their knowledge and enhancing their long-term goal in success planning. For girls, 8% agree with the statement. However, for both genders, 10% indicate that reading is not their forte. The visual representation will make our point more explicit.

Table 4.5.1: Reading and Study Habit**Table 4.5.3: I don't study every day in the same place**

Gender	Response					Total
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
Boy	17.7	28.6	10.2	33.5	10	100
Girl	15	22.6	10.8	35.9	15.7	100

The above table depicts the students' study habits. Most students tend to disagree with studying in the same place. Boys score in the disagreement sector of 33.5%, while girls score 35.9%, which indicates that they prefer to study in the same place. Nevertheless, a sizable percentage agrees with the statement that keeps changing the place of study. Here, boys have 28.7% while girls have 22.6%. This indicates that more girls prefer to study in the same place, meaning they tend to be more consistent in their study mode.

Figure 4.5.2: Study Habit Space

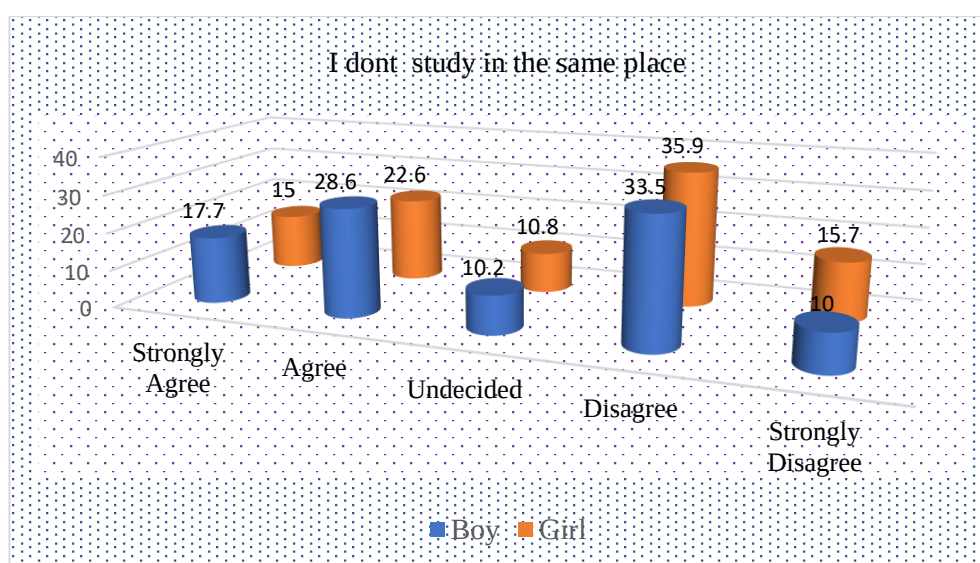


Table 4.5.4: During my free time, I help with household activities

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	42.9	46.1	4.3	5.5	1.2	100
Girl	59.6	32.8	3.1	3.1	1.4	100

Source: Field Data

The above table shows that most students do not participate in household chores in their free time. Both boys and girls have disagreed about spending their time doing household activities during their free time. 87% of boys have responded that they no longer spend time on household activities. While for girls, 92.4% disagree with spending their time on house activities.

The high percentage rates of disagreement with spending their free time on household activities suggest that students prioritize their time on other activities such as social media, socializing, or other outdoor activities. The gender differences in

household activities are relatively small. Girls hardly make up 4.4% of the total, compared to 6% of the boys who engage in house activities during their free time. Traditionally, girls are expected to help with household chores. However, the study reveals otherwise.

Figure 4.5.3: Free Time and Household Chores

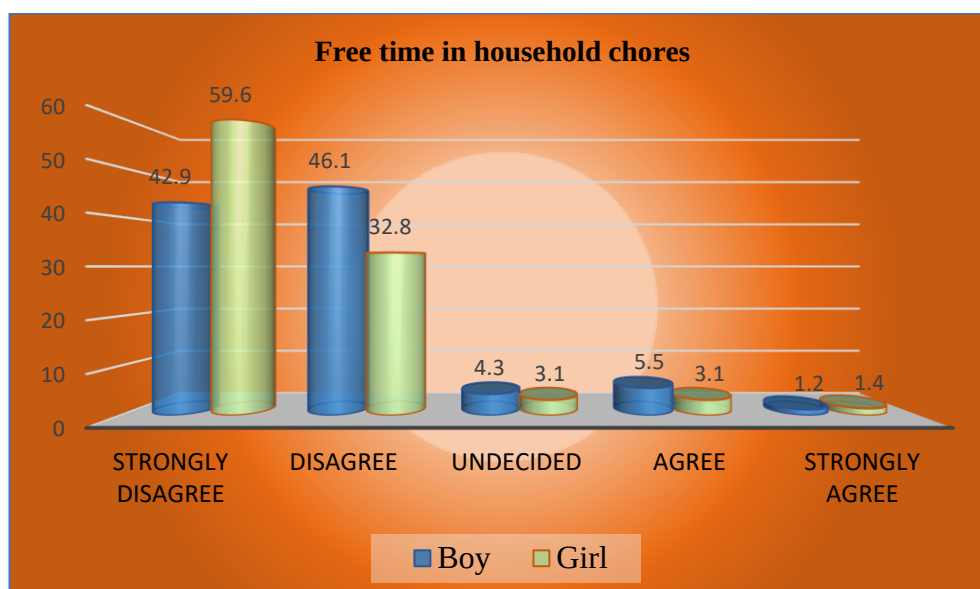


Table 4.5.5: I Do Not Give Up Unless I Master My Lesson

GENDER	RESPONSE					TOTAL
	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
Boys	4.7	13.4	19.7	42.9	19.3	100
Girls	2.7	15.3	20.2	38.5	23.3	100

Source: Field Data

The data indicate that self-determination in study habits is relatively low for both boys and girls. While boys agreed with 18.1%, girls also had the same record with 18%. So, self-determination is not the sole criterion for driving students to study. The undecided value is also high for both genders. It is 19.7% for boys, while for girls, it is 20.2%. It is evident for both genders that the disagreement level is relatively high, with 42.9% for boys and 38.2% for girls.

Figure 4.5.4: Determination and Study Habit

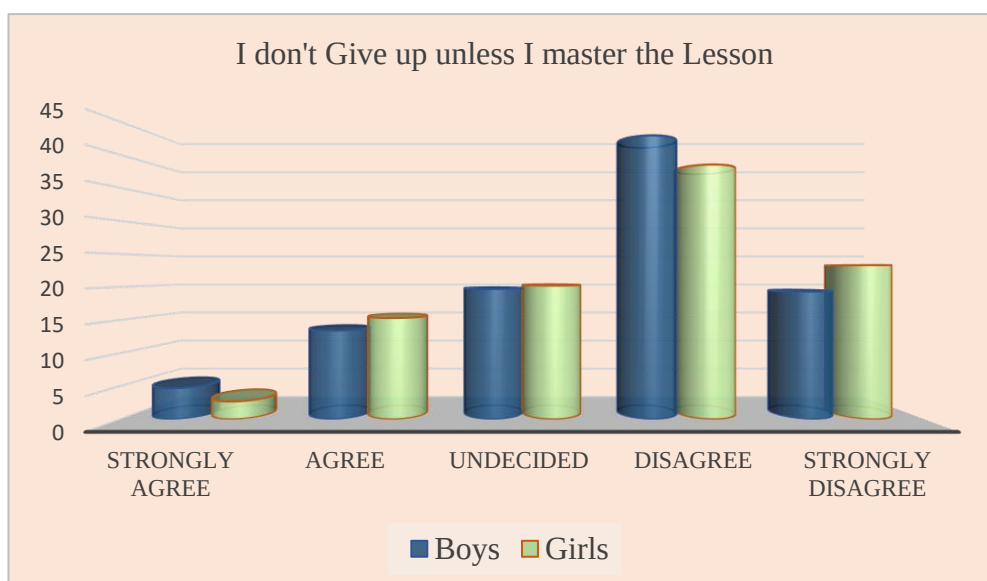


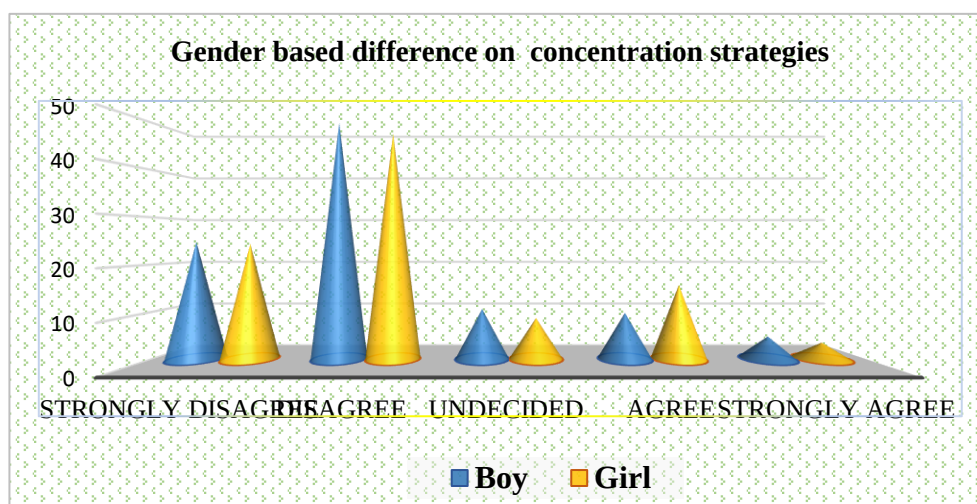
Table 4.5.6: If It Is Difficult to Concentrate, I Do Some Other Work

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	24.8	50	10.6	9.8	4.8	100
Girl	24.4	47.7	8.7	15.7	3.5	100

Source: Field Data

Overall, the majority of the students disagree with the statement. In the disagreement of the statement, boys have 74.8%, while girls have 72.1%. However, I agree that girls have a higher score of 19.2% than boys, with 14.6%.

Figure 4.5.5: Gender Based on Concentration of Studies



This result indicates that girls shift their attention to something else when they cannot concentrate. At the undecided level, boys score higher than girls, with 10.6% against 8.7% of girls. This also suggests that fewer girls are unaware of the need to shift their minds to other activities. Below is the graphic showing the difference in this issue.

Table 4.5.7: I Mentally Prepare My Lesson Before I Study

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	15.4	46.5	15.7	18.1	4.3	100
Girls	18.5	40.8	18.8	18.8	3.1	100

Source: Field Data

Most students do not mentally prepare before studying. Sixty percent of boys strongly disagree with the prior preparation of their study schedule and the content of what they are going to study. In contrast, 59.3% of girls disagreed with the previous study preparation. Both genders agree to some extent on the need for prior preparation for the lesson they will study. Here, boys have 22.4%, while girls have 22.9%, which is a marginal difference. Therefore, there is no significant difference between the genders in the agreement to mentally prepare for the lesson before settling down to study. Quite a good percentage of the girls are unsure of the need to prepare mentally for their studies. Girls have 18.8% while boys have 15.7% on the undecided level, mentally preparing for study. The graphical representation will picture the data.

Figure 4.5.6: Study Planning and Preparation

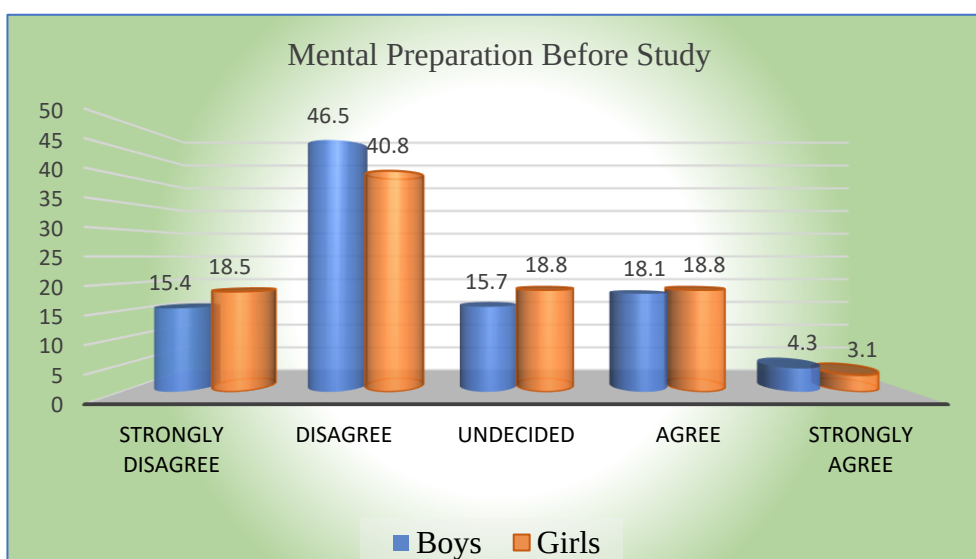
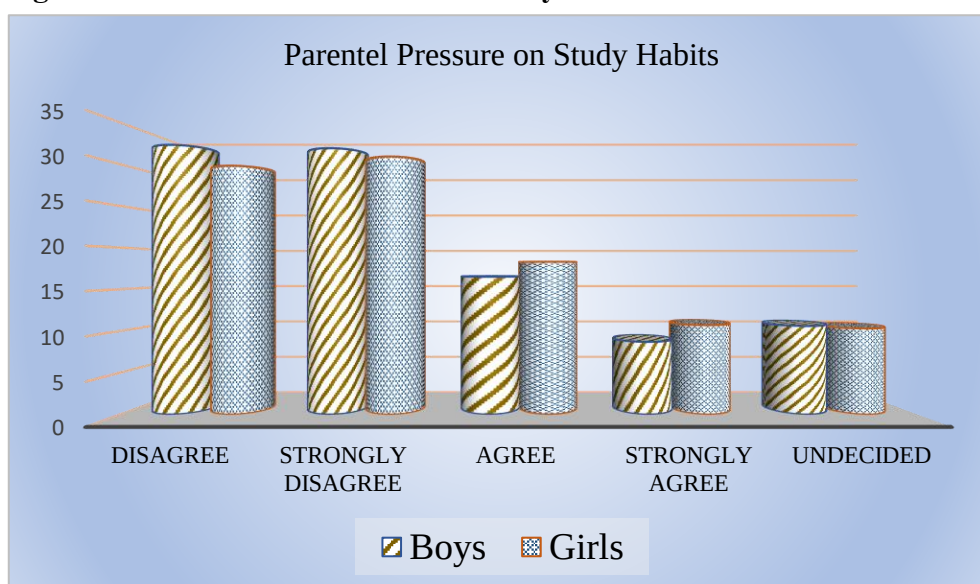


Table 4.5.8: I Cannot Study Under Pressure from My Parents

Gender	Response					Total
	Disagree	Strongly Disagree	Agree	Strongly Agree	Undecided	
Boys	32.3	31.9	16.5	8.7	10.6	100
Girls	29.8	30.9	18.3	10.7	10.3	100

Source: Field Data

Figure 4.5.7: Parental Pressure on Study Habits

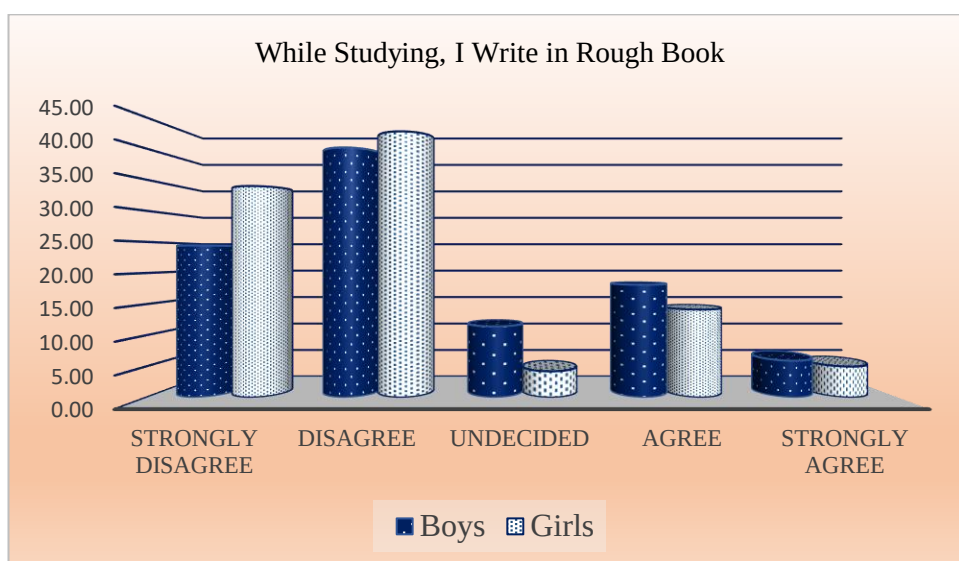


Most of the boys disagree that parental pressure hinders their study behavior. 64.2% points out to this response. However, 25.2% agree that parental pressure negatively affects their study trend. For girls, 60.7% responded that they disagree that parental pressure interferes with their study habits. 29% argued otherwise and answered that it matters under parental pressure to study. This negatively impacts their study behavior. It can be concluded that more girls struggle under parental pressure than boys. In the undecided answer, boys and girls have almost identical scores of 10.6% and 10.3%.

Table 4.5.9: While studying, I Also Write in A Rough Book

GENDER	Response					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	24.41	40.16	11.42	18.11	5.91	100
Girls	33.97	42.75	4.20	14.12	4.96	100

Figure 4.5.8: Study Techniques



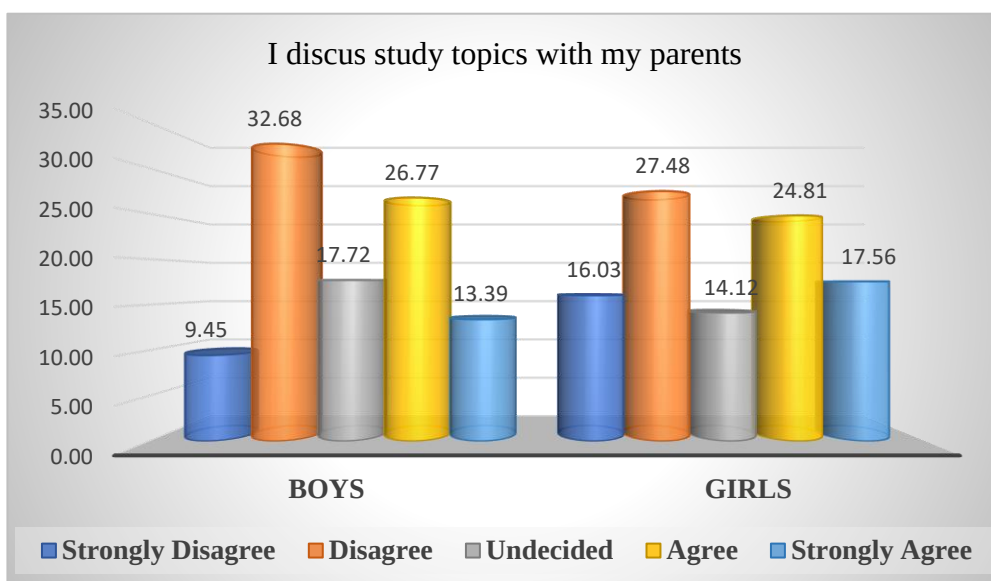
The boys use more of their visual senses to master their lessons. Compared to girls, 24% answered that they use rough books to study and use their visual and motor senses to study. Girls, on the other hand, have only 19% for this answer. Most girls do not use this technique of studying, especially their visual and motor skills, to remember their lessons. 75.72% answered that they disagree with using rough books as a supplement to research and enhance their mnemonic skills.

Table 4.6.0: I Discussed with My Parents on Specific Topics for the Exam

GENDER	Response					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	9.45	32.68	17.72	26.77	13.39	100.00
Girls	16.03	27.48	14.12	24.81	17.56	100.00

Source: Field Data

Figure 4.5.9: Parental Support in Study Habit



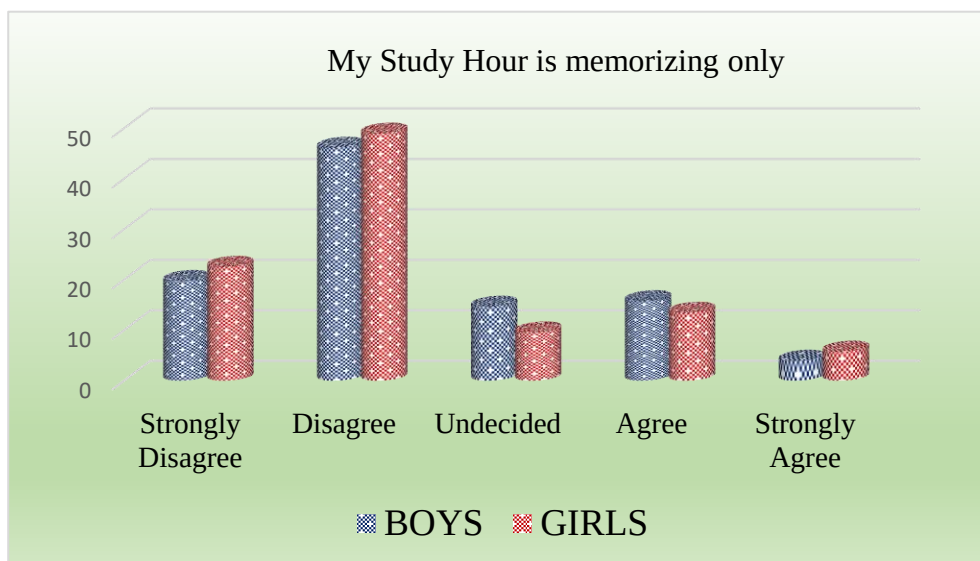
Both boys and girls share parental support and guidance with their parents. However, girls tend to share their study concerns with their parents more. In agreeing to this variable, girls have 42.37%, while boys only have 40.16%. On the disagree side, boys account for 42%, while girls account for 43%. There is not much difference in parental support regarding study habits.

Table 4.6.1: My Study Hours Are Only Memorizing the Lessons

GENDER	Response					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	19.7	46.1	14.6	15.7	3.9	100.00
Girls	22.5	48.9	9.5	13.5	5.7	100.00

Source: Field Data

Figure 4.6.0: Nature of Study Habit



Both boys and girls have almost the same response to their study patterns. Boys' agreement is 19.6%, while girls' agreement is 19.2%, meaning they rely on rote memory for content mastery. The disagreement is 65.8% for boys, while for girls, it is 71.4%. This implies that girls have higher variations of study techniques apart from the rote memory method. In the undecided ratio, boys have a higher percentage than girls. For boys, it is 14.6 and 9.5% for girls.

Table 4.6.2: I always give sufficient time to study

GENDER	Response					TOTAL
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	9.45	42.91	20.47	23.62	3.54	100
Girl	13.94	33.8	25.09	23	4.18	100

Source: Field Data

Boys disagree that they do not have sufficient time to study, as 52.34% indicated this view. Meanwhile, for girls, it is 47.7%. At the agreement level, boys have 27.16%, and girls have 27.18%. For the girls, the percentage was higher at the undecided level, with 35.09% against 20.47% for boys.

Figure 4.6.1: Study Habits and Time Management

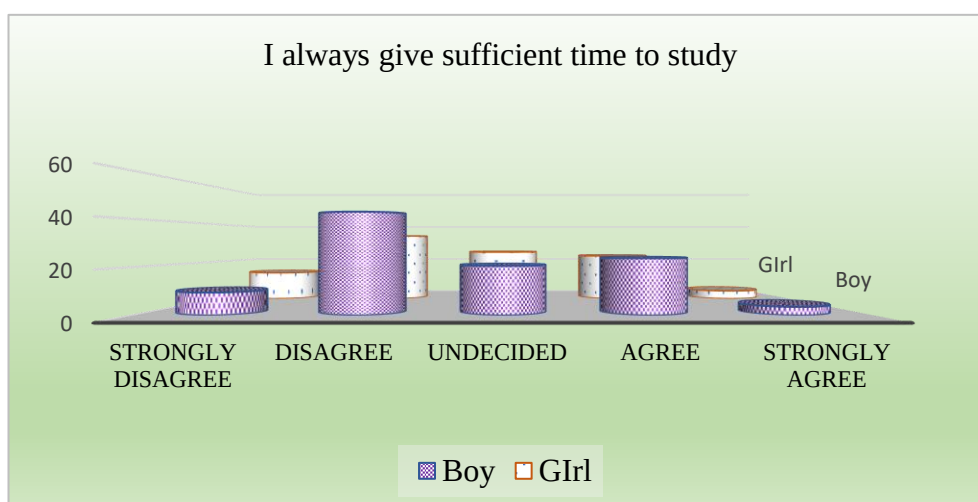


Table 4.6.3: I Mark Questions that are Difficult to Understand

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	28.1	46.2	8.3	13.4	4	100
Girls	34.5	43.2	7	11.1	4.2	100

Source: Field Data

Boys score higher in agreeing to mark difficult questions for further assistance and clarification. Here, boys score 18.4% while girls score 15.3%. It appears that boys have a more substantial visual representation than girls, as the percentage indicates in this argument. Both genders strongly disagree in a more significant percentage. It is 72.3% for boys, while for girls, it is 77.7%, which is higher than for boys. The undecided percentage is lower for both genders than the agreement and disagreement scores. These scores show that the students are unaware of the reinforcing systems of learning. The graphical representation of the above data is below.

Figure 4.6.2: Marking Questions for better understanding

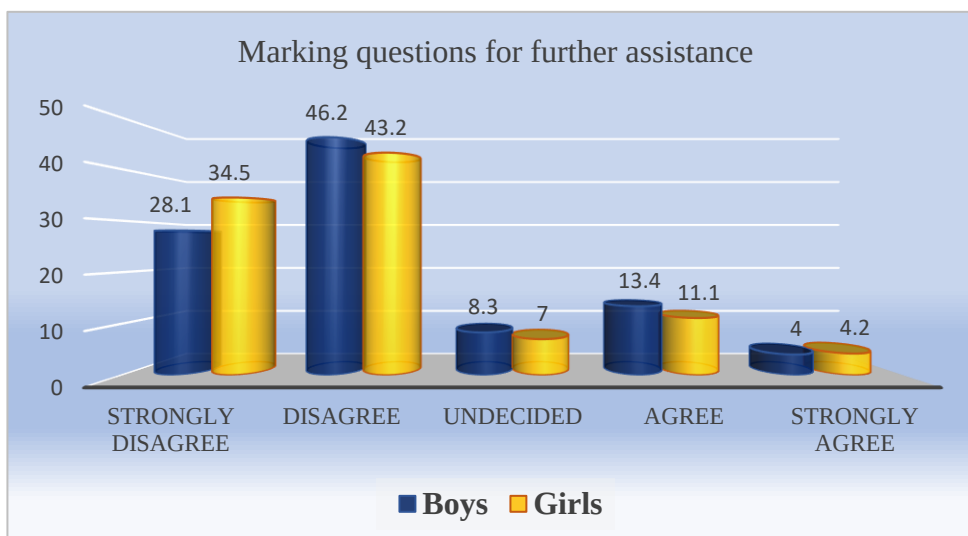


Table 4.6.4: After Every Topic of Studying, I Do Revisions

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boys	31.9	48.4	7.1	9.1	3.5	100
Girls	46	38.7	8	6.6	0.7	100

Source: Field Data

Most boys and girls do not revise after studying their lessons. It is hard for boys; only a tiny percentage revise after learning their lessons. Here, girls score 7.3% against the 12.6% score of boys. For boys, 80.3% disagree with this study technique, while girls score 82.7%. Most students do not appear to revise their lessons to reinforce the learning system.

Figure 4.6.3: Studying and Periodic Revision

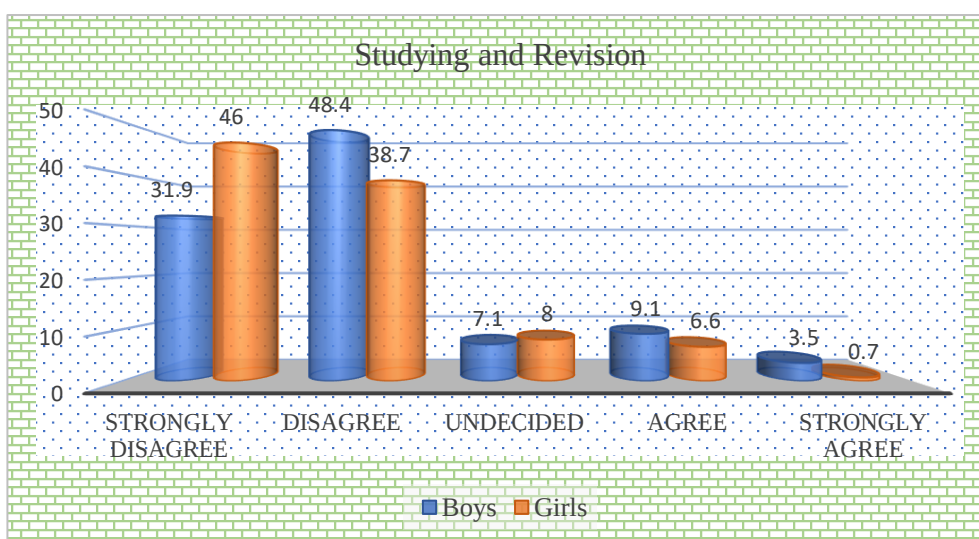


Table 4.6.5: I Selectively Study for My Exam

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	17.3	38.6	16.1	18.9	9.1	100
Girl	18.5	38	11.5	22	10	100

Source: Field Data

The percentage score of disagreement is higher for both genders. Most students do not study selectively; however, a sizable percentage do so for exams. Boys' 28% agree with this type of study, while girls' 32% agree with this analysis method. At the undecided level, boys have higher scores of 18.9% against 11.5% of girls. This implies that girls tend to study selectively for the exam. Unlike the preceding reports, the disagreement score is lower. Below is the graphical image for the above data.

Figure 4.6.4: Selective Study for the Exams

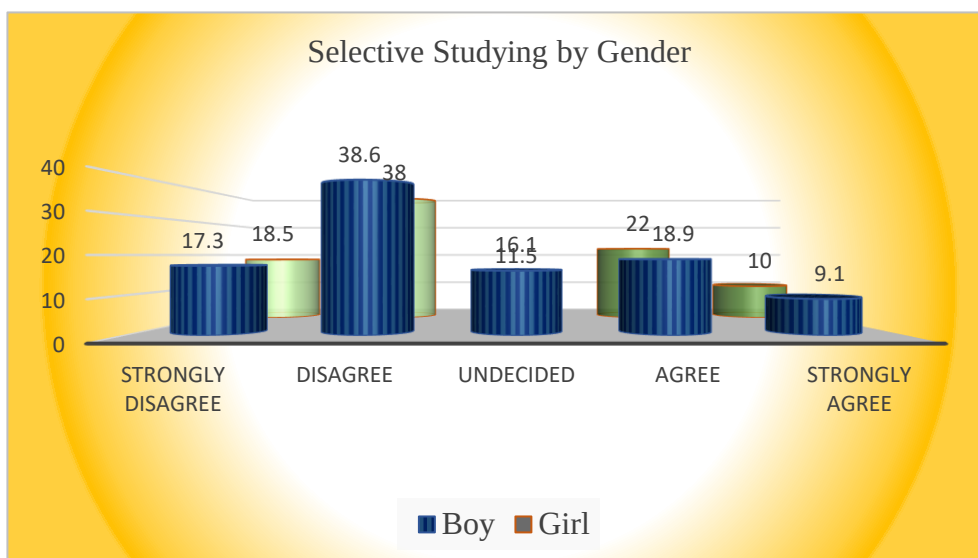


Table 4.6.6: I Like to Read Comics, Love Stories, and Newspapers

Gender	Response					Total
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	
Boy	33.9	34.6	5.9	14.2	11.4	100
Girl	39.7	34.5	9.8	9	7	100

The above data shows that boys have a higher percentage of reading habits, such as comics, love stories, and newspapers. Boys have 25.6%, while girls have only 16% in their assorted reading habits. Regarding disagreement, girls have 74.2%, while boys score 68.5%. This reveals that a good percentage of the students do not have reading habits.

4.9.1. Dimensions of Study Habits

Table 4.6.7: Study Habits and Time Management

VARIABLE	MEAN	SD
Class-hour teaching is enough for me to study	3.41	1.201
I do not read extra materials for exams	2.68	1.204
I study better when I discuss with my friends.	2.72	1.288
I always give myself sufficient time to study.	2.69	1.067
I do not do my assignments at the last hour.	3.3	1.243

Source: Field Data

From the above table, it is evident that most students see class-hour teaching as an indicator of studying, though there is a difference in opinion. On average, students read other related materials, but there is a variation in this factor. Many students take time to prepare to study and discuss the lessons with friends for better understanding. Most students do their assignments at the given hour, but here, too, there is a diverse opinion, which means some students do it at the last hour.

Table 4.6.8: Motivation and Academic Goals

VARIABLE	MEAN	SD
When I study hard and get good grades, I feel satisfied.	1.54	0.90
It is my ambition that motivates me to study hard	1.81	0.93
My interest in reading helps me to study more.	1.94	0.93
I do not give up unless I master my lesson	3.63	1.07

Source: Field Data

Here, most students find great satisfaction in attaining good academic results. Academic grades and the desire to achieve motivate them to study hard and earn good grades. There is also an element of self-driven goal to study. The mean score in this variable is relatively high, with 3.63 and a standard deviation of 1.07.

Figure 4.6.5: Mean of Study Techniques and Strategies

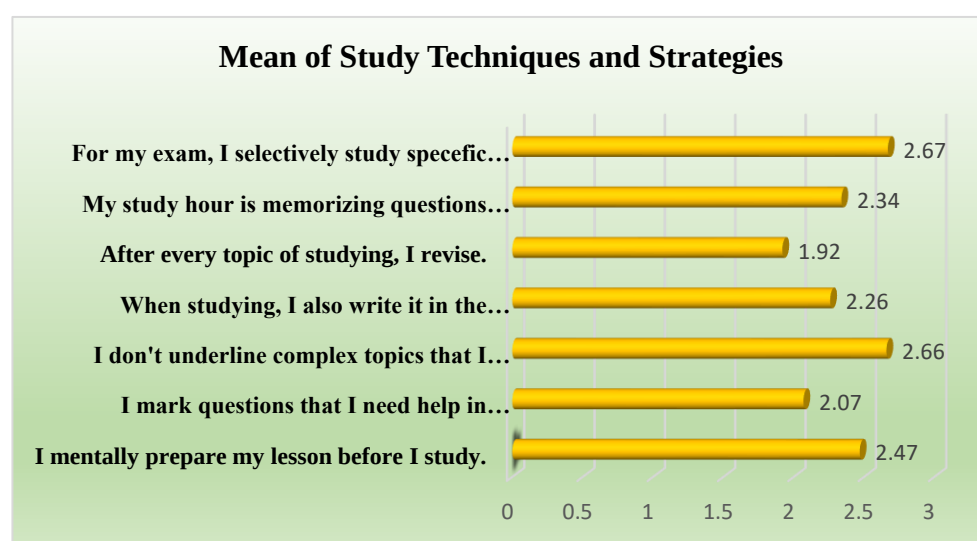


Table 4.6.9: Study Techniques and Learning Strategies

VARIABLE	MEAN	SD
I mentally prepare my lesson before I study.	2.47	1.08
I mark questions that I need help understanding	2.07	1.10
I do not underline complex topics that I study.	2.66	1.26
When studying, I also write it in the rough book.	2.26	1.19
After every topic I study, I revise.	1.92	0.98
My study hour is memorizing questions and answers.	2.34	1.10
For my exam, I selectively study specific answers.	2.67	1.25

Source: Field Data

The above chart reveals that students selectively study the topic and do not underline important topics for better remembrance. This implies that many students are not visual learners but more relational or kinesthetic learners. Their study techniques are mainly based on rote learning and memorizing.

Table 4.7.0: Parental Care and Teacher Support

VARIABLE	MEAN	SD
My teachers help me with my high academic record.	2.23	0.966
I discuss specific topics for the exam with my parents.	3	1.28
I cannot study under pressure from my parents.	3.68	2.99

Source: Field Data

Most students do not get help from their teachers in their studies. Unlike other statements, this one also has a low standard deviation of 0.96. There is an average issue regarding the discussion with their parents regarding their studies. Some students get the help of their parents while others do not. Many students agree that parental pressure affects their studies. Here, there is a sharp division of a high standard deviation of 2.99, which indicates that some students experience negative pressure. In contrast, others thrive on academic achievement because of parental pressure and expectations.

Table 4.7.1: Creative Use of Time

VARIABLE	MEAN	SD
During my free time, I help with the house activities	1.64	0.83
During my free time, I do not play mind games.	2.98	1.24
I like to read comics, love stories, and newspapers.	2.21	1.3

Source: Field Data

As per the above table, most students do not spend time on household activities. The lower mean score and also lower standard deviation justify this statement. Some students engage in mind games, while most engage in other things. Reading is also not in the students' hobbies, as the score is below average, with low agreement variation. Hence, we conclude that household activities, mind games, and reading are not on the students' priority lists.

4.9.2. Hypothesis Testing

4.9.2.1. **Hypothesis H₀₁:** No significant difference exists between urban and rural students in Study Habits.

Table 4.7.2: t-test of urban and rural students in their study habits

Location		N	Mean	SD	SEM	P	t
Study habit	Urban	328	2.5608	.32238	.01780	0.285	1.383
	Rural	271	2.5261	.28281	.01718		

Source: Field Data

Statement: The t-value of 0.68 is greater than the threshold value of 0.05; therefore, we fail to reject the null hypothesis and conclude that there is no significant difference in study habits between urban and rural students. The mean difference between urban and rural students is 0.034, which is only a marginal difference. Hence, we accept the null hypothesis of equal variance.

4.9.2.2. **Hypothesis H₀₂:** There is no significant difference in Study Habits between boys and girls in Secondary School.

Table 4.7.3: T-Test of Boys and Girls of Study Habits

Gender	N	Mean	SD	SEM	p	t
Boy	254	2.5684	.31271	.01962	0.35	1.07
Girl	262	2.5393	.30638	.01893		

Source: Field Data

Statement: The means for boys and girls are close but differ little. The p-value of 0.35 exceeds the threshold value of 0.05. Therefore, there is no statistical significance, and hence, we fail to reject or accept the null hypothesis that study habits between boys and girls are insignificant, irrespective of school management or locality.

4.9.2.3. **Hypothesis H₀₃:** There is no significant difference of study habits between government and private school students

Table 4.7.4: T-Test of Government and Private School Students

School Type	N	Mean	SD	SEM	t	p
Government	275	2.55	0.311	0.019	0.04	0.97
Private	325	2.54	0.300	0.017		

Source: Field Data

Statement: The table shows that the p-value of 0.97 exceeds the threshold value 0.05, which is significant. Therefore, we fail to reject the null hypothesis that there is no significant difference in study habits among government and rural students.

4.9.2.4. **Hypothesis H₀₄:** There is no significant difference of study habits between urban and rural students

Table 4.7.5: T-Test: Two-Sample of Rural and Urban Schools

Location	Mean	Variance	t	p
Rural	12.56	2.65	0.51	0.61
Urban	12.16	2.37		

Source: Field Data

Statement: The p-value is 0.61, greater than the threshold significant value of 0.05. Therefore, we fail to reject the null hypothesis that there is no significant difference in multiple intelligence between urban and rural schools.

4.9.2.5. **Hypothesis H₀₄:** There is no significant difference in study habits between different tribes of Nagaland.

Table 4.7.6: Kruskal-Wallis Test for Different Tribes of Nagaland

Null Hypothesis	Test	Sig	Decision
The distribution of the mean of study habits is the same across the categories of Tribes	Independent Samples-Kruskal-Wallis test	0.047	Reject the null hypothesis

Statement: From the independent samples, the Kruskal-Wallis test shows that the p-significant value of 0.047 is lower than the threshold value of $\alpha=0.05$; therefore, we reject the null hypothesis that there is no significant difference in study habits among different tribes.

4.9.2.6. **Hypothesis H₀₅:** There is no significant difference in study habits between the different birth positions of the family.

Table 4.7.7: Kruskal-Wallis Test for Different Birth Positions of Students

Null Hypothesis	Test	Sig	Decision
The distribution of mean score of study habits is same across categories of birth position.	Independent Samples-Kruskal-Wallis test	0.294	Retain the null hypothesis

Statement: The independent samples-Kruskal-Wallis test shows that the p value 0.294 $> \alpha=0.05$; therefore, we fail to reject the null hypothesis that there is no difference in study habits among the different birth positions of the family in which students come.

Table 4.7.8: Mediation Analysis

Path	Effect	SE	t	p	LLCI	ULCI	SM
Mean MI + Mean AA (a)	0.53	0.203	2.626	0.009	0.134	0.93	S
Mean AA + Mean SH (b)	0	0.001	-0.23	0.818	-0.003	0.002	NS
Mean MI + Mean SH (c)	-0.04	0.006	-6.954	0	-0.052	-0.029	S
Total Effect (c)	-0.04	0.006		0	-0.052	-0.029	S
Indirect Effect [a(A-B)]	0	0.001			-0.002	0.001	NS

Source: Field Data

4.1.0. Mediation Analysis

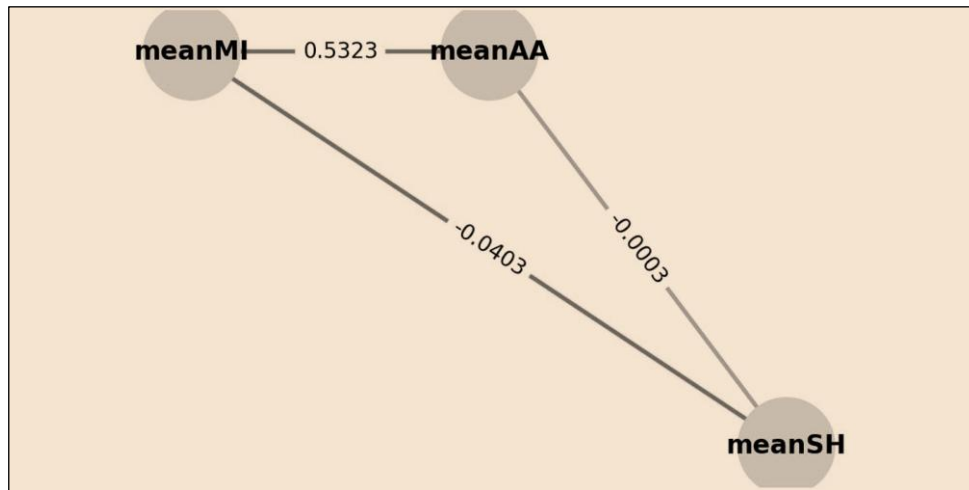
The effect of multiple intelligence mean scores on the mean of academic achievement is significant, with a positive impact of a p-value of 0.0089. Here, the coefficient value is 0.532. On the other hand, the effect of academic achievement on study habits is insignificant, as the coefficient value is -0.0003 and the p-value is 0.8182.

The effect of multiple intelligence on study habits is adverse, with a coefficient value of -0.0403 and a p-value of 0.001, which is lower than the threshold value of 0.05 significance level.

The indirect effect of Multiple Intelligence scores on Academic Achievement scores is insignificant, meaning there is no mediation value. Here, the indirect effect value is -0.0001, which is relatively negligible. The total effect of mean multiple intelligence on mean study habit through pat c is significant but has only a negative marginal effect with a p-value of 0.001.

Hence, we conclude that the mean of academic achievement does not mediate the relationship between the mean of multiple intelligence and the mean of study habits, as its effect is insignificant. However, the mean of numerous intelligences directly negatively affects the mean of study habits. Below is the visual representation of this triad relationship.

Figure 4.6.6: Mediation Model Visualization (Process model-4)

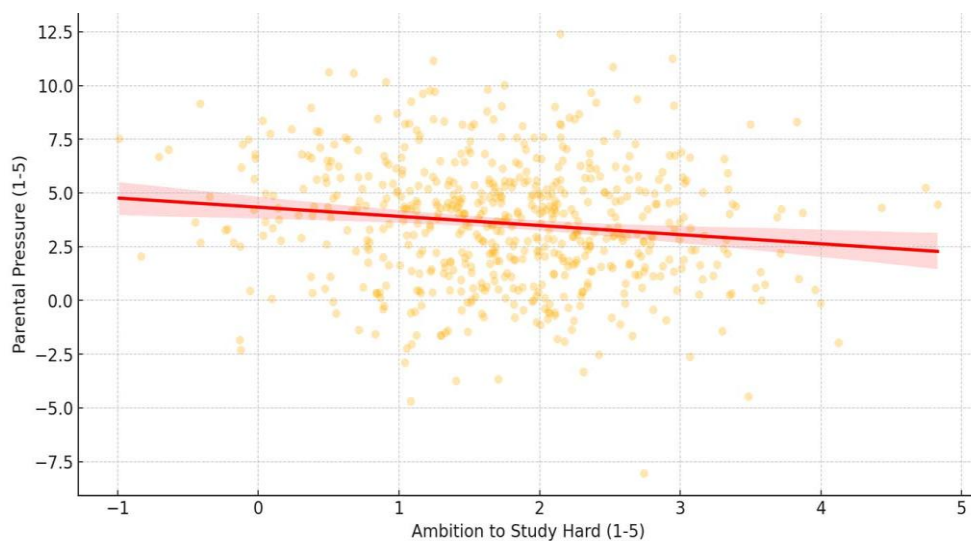


Source: Field Data, PNG image generated from ChatGPT, 2024

From the above mediation diagram, it is clear that the mean of multiple intelligence (mean MI) influences the mean of academic achievement with a positive effect of 0.5323. However, the mean of academic achievement has a nonsignificant effect. The grey line indicates the relationship between them. The mean of multiple intelligences has a significant adverse direct effect on study habits score.

4.1.1. Visual Representation of How Parental Pressure Influences Study Habits

Figure 4.6.7: Effect of Ambition on Parental Pressure



Source: Field Data, PNG image generated from ChatGPT, 2024

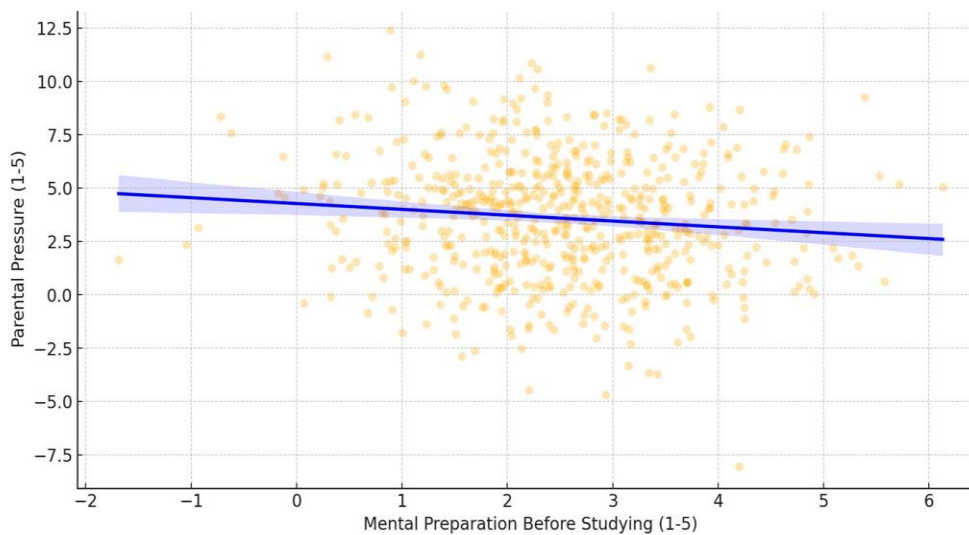
4.1.2. Ambition to Study Hard and Parental Pressure

There is a negative correlation between the ambition to study hard and parental pressure. This implies that students with higher ambition tend to feel less pressure from their parents to study. This reveals that students with a self-driven desire to achieve are less affected by parental pressure. The red line slopes downward, indicating a negative correlation between ambition and parental pressure. The ratio proves that parental demand for study decreases in real life when ambition increases.

4.1.3. Mental Preparation and Parental Pressure

Parental pressure on students' study habits negatively impacts those who use the rote technique. This pressure hurts the students' academic achievement. Parents' insistence on obtaining a high grade causes students tremendous mental pressure. Those students who adopt other study habits do not experience severe mental pressure from their parents. The graphical representations below indicate these relations.

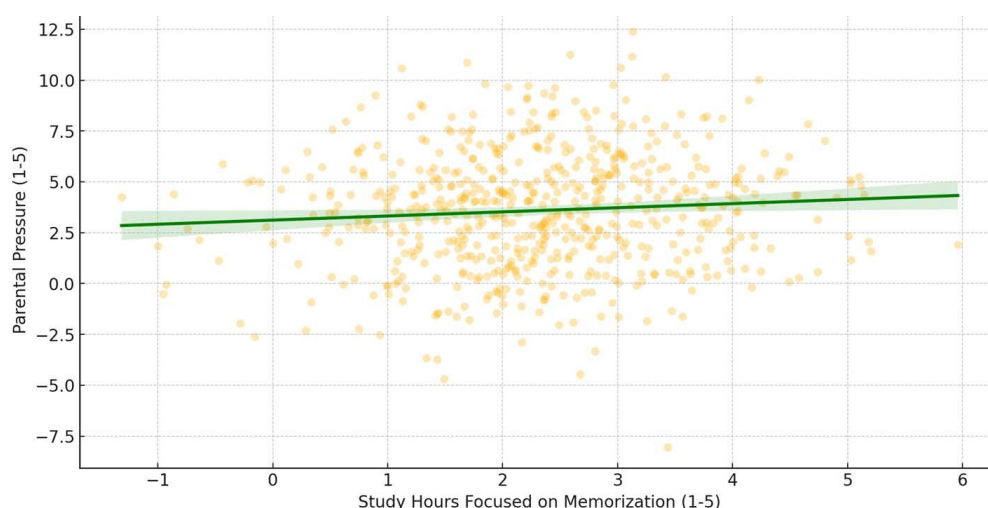
Figure 4.6.8: Mental Preparation Before Studying and Parental Pressure



Source: Field Data, PNG image generated from ChatGPT, 2024.

A negative correlation exists between students' mental preparation for study and parental pressure. The trending line moves downward, signifying that parental pressure decreases when students mentally prepare to study well. This justifies that those students who plan their studies are not stressed by external pressure.

Figure 4.6.9: Rote-Based Study and Parental Pressure



Source: Field Data, PNG image generated from ChatGPT, 2024

There is a positive correlation between rote-based study and parental pressure. This indicates that students who rely more on memorization or rote study methods are more likely to experience parental pressure. The upward trend line explains this phenomenon: parental expectations increase for the students to ensure that study materials are mastered, hence the pressure. Here, we can see that students relying on the memorization technique feel more pressure from their parents, perhaps due to performance expectations.

Table 4.7.9: ANOVA test on Study Habits score based on Father's Education

Source	Sum of Squares	df	Mean Square	F	p
Between Groups Combined	0.999	2	0.499	5.443	0.005
Linear Term unweighted	0.991	1	0.991	10.805	0.001
Linear Term Weighted	0.794	1	0.794	8.654	0.003
Deviation from Linearity	0.205	1	0.205	2.232	0.136
Within Groups	54.759	597	0.092		

Source: Field Data

The table displays the output of the one-way ANOVA test on study habits scores across fathers' educational qualifications. The mean scores between groups have a significant difference in their score, as the value of $p=0.005$ indicating for the same and showing marginal difference. The Linear terms' unweighted and weighted values exceed the threshold value of $\alpha=0.05$. There is a significant relationship between the independent variable and the dependent variable.

Table 4.8.0: Post hoc Test of Tukey HSD on Mean Study Habits across Father's Education Level

Comparison (I-J)	Mean Difference	P	95% Confidence Interval	SL
Up to 10 vs. HS	-0.007	0.976	(-0.0909, 0.0760)	NS
Up to 10 vs. Graduate & Above	-0.128	0.003	(-0.2196, -0.0365)	S
HS vs. Graduate & Above	-0.121	0.036	(-0.2348, -0.0063)	S

Source: Field Data

From the findings of the Post Hoc Test of Tukey HSD, it is evident that there is a significant relationship up to Higher Secondary and above educational qualification of the students and parents. The values of p the significant level indicators are below the threshold value of $\alpha=0.05$ level. However, the mean score of study habits of the parents' educational level of class ten and higher secondary level does not have a significant level. The graphical representation can be more precise from below:

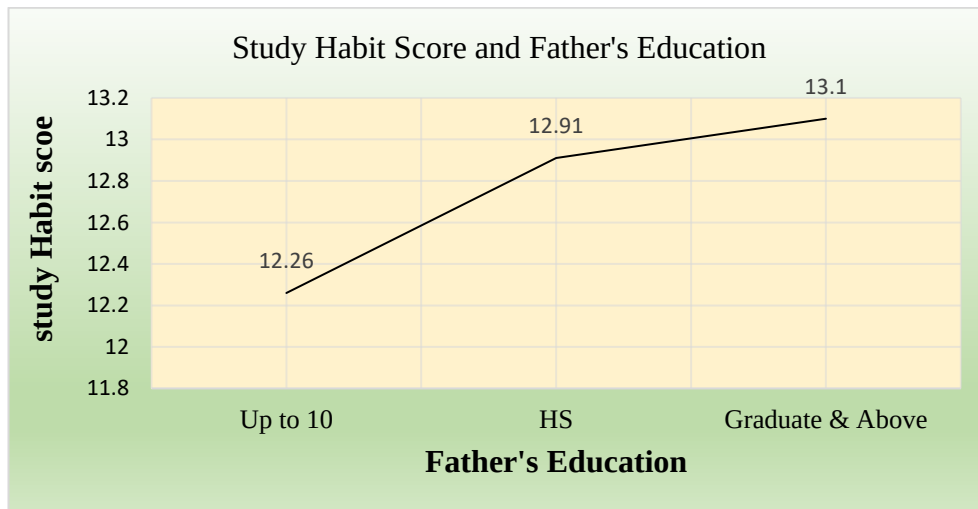
Table 4.8.1: Study Habit Mean Score against Father's Education Level

Father's Education Level	Mean Score of Study Habits
Up to 10	12.26
Higher Secondary	12.91
Graduate & above	13.1

Source: Field Data

From the table above, it is clear that the higher the qualification of the students' parents' education level, the higher the mean score of the study habits. As the educational level raises, the home study atmosphere also improves, and this study clearly confirms that understanding. The graphical representation of this table is below.

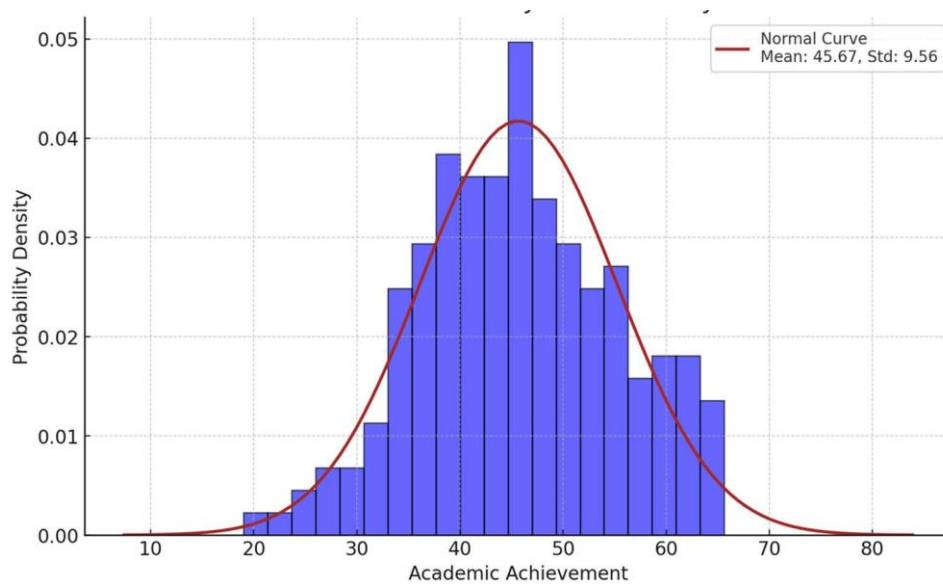
Figure 4.7.0: Line Plot Showing the Mean Score of Study Habits Against Father's Education Level



4.1.4. Academic Achievement of Boys and Girls

The profiles of boys' and girls' academic achievement are presented visually through the standard curve and other data that indicate and represent their achievement. Serious tests have been done to test the hypothesis and its relationship with other variables. We may now present them here.

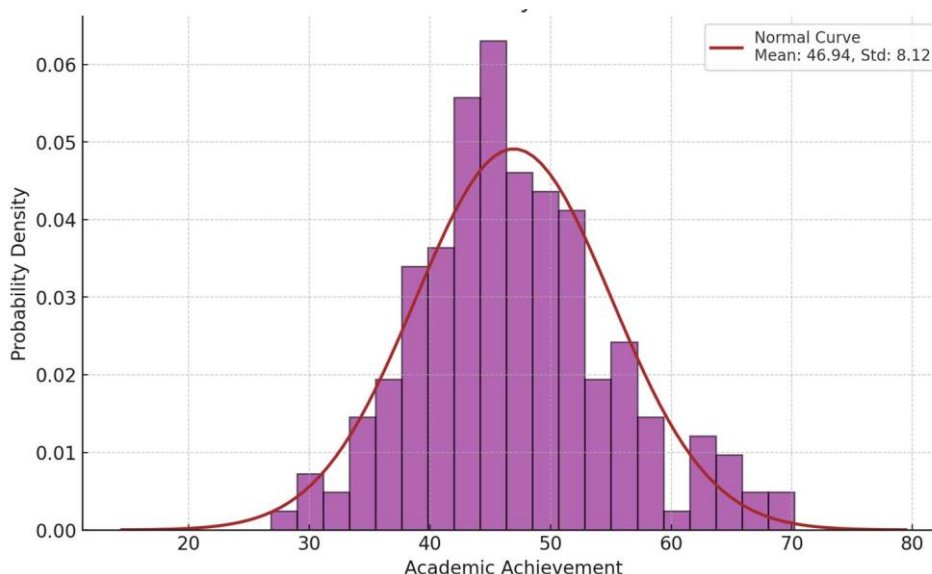
Figure 4.7.1: Normal Curve of Girls' Academic Achievement



Source: Field Data, PNG image generated from ChatGPT, 2024

The standard curve indicates that boys' academic achievement is around 35% to 65%.

Figure 4.7.2: Normal Curve Depicting Girl's Academic Achievement Score



Source: Field Data, PNG image generated from ChatGPT, 2024

The normal probability curve of girls' academic achievement scores indicates that most scores fall from 40% to 65%, even reaching 70%.

4.1.5. Hypothesis Testing

4.1.5.1. Hypothesis H_{01} : There is no significant difference in academic achievement between boys and girls.

Table 4.8.2: T-Test for the Academic Achievement of Boys and Girls

Test Type	t	df	p	Mean Difference	SEM
Equal variances assumed	0.705	514	0.481	-0.636	0.902

Source: Field Data

Statement: Here, the mean difference is very negligible. Girls have a slightly higher mean in academic achievement. However, this difference is not significant. The p-value of 0.481 exceeds the threshold value of 0.05, signifying that there is not much difference between boys and girls in

academic achievement. Hence, we fail to reject the null hypothesis that boys and girls significantly differ in educational attainment.

4.1.5.2. Hypothesis H₀₂: There is no significant difference in academic achievement between private and government schools.

Table 4.8.3: t-test for the academic achievement of government and private school students

School Type		N	Mean	SD	SEM	p	F
Mean AA	Govt	275	48.43	8.72	.526	0	29.47
	Private	325	53.33	11.14	.618		

Source: Field Data

Statement: The F value of 29.47 indicates a high variation between government and private schools. The p-value of the significance level is .00, below the threshold value of 0.05. Therefore, we reject the null hypothesis that there is a considerable difference in the academic achievement of government and private school students. The substantial difference in the F value testifies to this fact.

4.1.5.3. Hypothesis H₀₃: There is no significant difference in academic achievement between urban and rural students.

Table 4.8.4: T-Test for Urban and Rural Students in Academic Achievement

Location		N	Mean	SD	SEM	p	F
Mean AA	Urban	328	50.24	10.53	.581	0.029	0.04
	Rural	271	52.11	10.16	.617		

Source: Field Data

Statement:

The above table clearly shows that rural students' mean score is higher than that of urban students in terms of academic achievement. The p-value of 0.029 in the equal variance assumed row is lower than 0.05, implying a significant difference in academic achievement scores between urban and rural students. Therefore, we reject the null hypothesis that urban and rural students have no significant difference in educational

attainment. In short, rural students have outperformed urban students with a mean score and a p-value of 0.02, which is lower than the indicated mark.

4.1.5.4. Hypothesis H₀₄: There is no significant difference in academic achievement across the birth positions of the students.

Table 4.8.5: Kruskal-Wallis Test for Birth Positions of Students

Null Hypothesis	Test	Sig	Decision
The distribution of mean score of study habits is same across categories of birth position.	Independent Samples- Kruskal-Wallis test	0.059	Retain the null hypothesis

Statement:

The independent samples Kruskal-Wallis test p value = 0.059 indicates that it is lower than and equal to the threshold value of $\alpha=0.05$. Therefore, we accept the null hypothesis that there is no significant difference in academic achievement across the family's birth position categories.

4.1.5.5. Hypothesis H₀₅: There is no significant difference in academic achievement between different tribes of Nagaland.

Table 4.8.6: Kruskal-Wallis Test for Different Tribes' Academic Achievement

Null Hypothesis	Test	Sig	Decision
The distribution of the mean score of study habits is the same across the categories of tribes	Independent Samples- Kruskal-Wallis test	0.000	Reject the null hypothesis

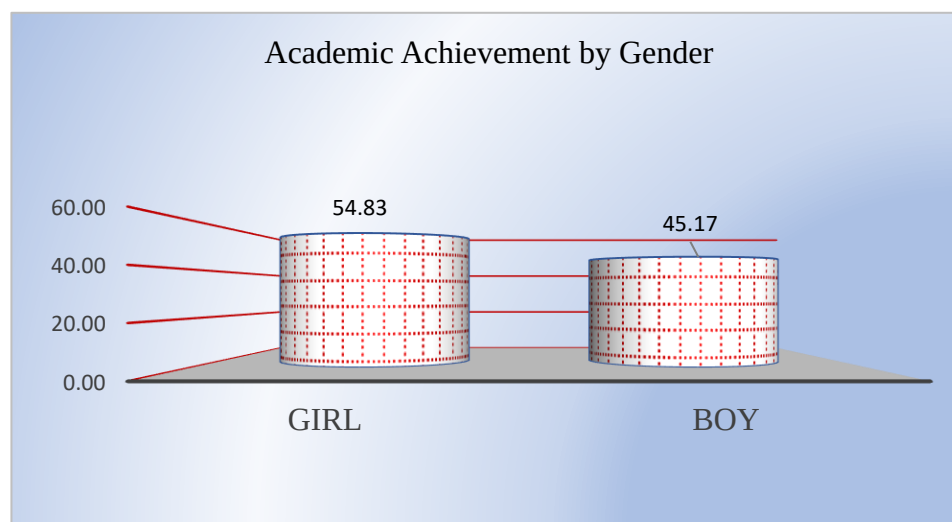
Statement: The independent samples Kruskal-Wallis test reveals the value of $p=0.000 < \alpha=0.05$; therefore, we reject the null hypothesis that there is no significant difference in academic achievement among the different tribes. The alternative hypothesis shows a difference in academic achievement among different tribes.

Table 4.8.7: Academic Achievement Based on Gender

Gender	%
Girl	54.83
Boy	45.17

Source: Field Data

The table displays academic achievement based on gender. It is obvious that girls' score percentage is higher than boys', with 54.83% and 45.17%, respectively.

Figure 4.7.3: Academic Achievement by Gender**Table 4.8.8: χ^2 test for Gender on Academic Achievement**

Test	Value	df	Sig.	N
Pearson Chi-Square	619.554 ^a	642	0.731	600
Likelihood Ratio	485.435	642	1	
Linear-by-Linear Association	0.311	1	0.577	

Source: Field Data

Here, the p-value = 0.731, which is greater than the $\alpha = 0.05$; therefore, there is no statistically significant association between gender and academic achievement. In the likelihood ratio, the significance level value of 1.00 is $>$ than the $\alpha = 0.05$. Hence, the variables are not associated at the significant level. For the linear-by-linear

association, the significance level is more than the designated level of $\alpha=0.05$, hence we conclude that gender and academic achievement are not in a clear linear direction.

Table 4.8.9: Academic Achievement based on Locality

Locality	N	%
Rural	306	51%
Urban	294	49%
Total	600	100%

Source: Field Data

Students' academic achievement based on locality indicates that the academic percentage is better than that of urban students. The rural students' score is 51%, while the urban students' score is 49%. Below is the visual image for this score.

Figure 4.7.4: Academic Achievement by Locality

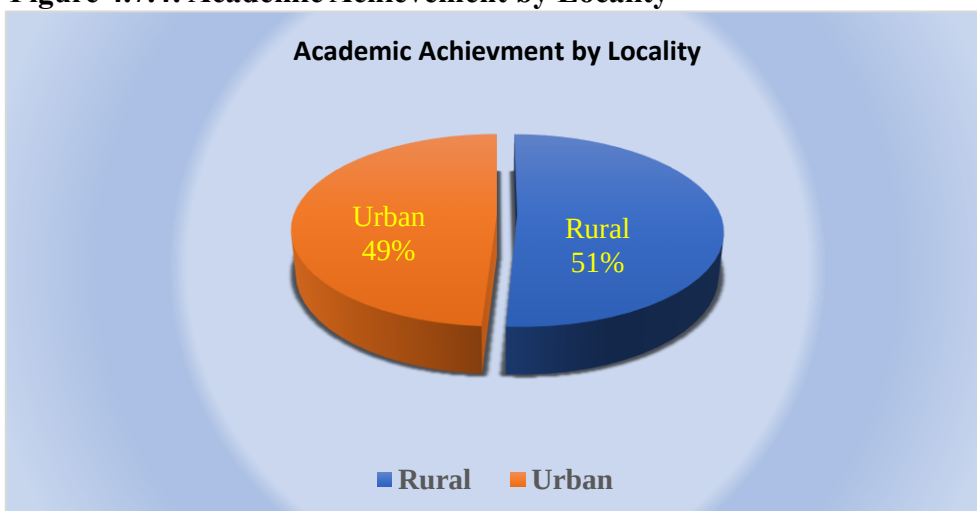


Table 4.9.0: χ^2 test for Locality on Academic Achievement

Test	Value	df	Sig.	N
Pearson Chi-Square	215.975	214	0.449	600
Likelihood Ratio	285.049	214	0.001	
Linear-by-Linear Association	3.986	1	0.046	

Source: Field Data

The Pearson Chi-Square test indicates the p-value = 0.499, greater than the designated point of $\alpha=0.05$. Hence, we conclude that there is no significant relationship between the locality of urban and rural on the students' academic achievement. In

short, students' academic achievement is not reflected or influence on the background from which students are from.

From the likelihood ratio of significant value=0.001 indicates that there is a strong association between locality and academic score of the students as the p-value of 0.001 is lower than the significant level of $\alpha=0.05$. The linear-by-linear association indicates the p-value of 0.046 which is lower than the $\alpha=0.05$ indicating that there is a proper Linear relationship between the locality of the students and the academic achievement scores.

Table 4.9.1: Academic Achievement of School Type

School Type	N	%
Private	325	54.20
Government	275	45.80
Total	600	100

Source: Field Data

The table represents students' academic achievement based on the school type: private and government schools. The Private school students have a score of 54.20% while the government school students have a score of 45.80%. The graphical representation is below.

Figure 4.7.5: Academic Achievement by Type of School

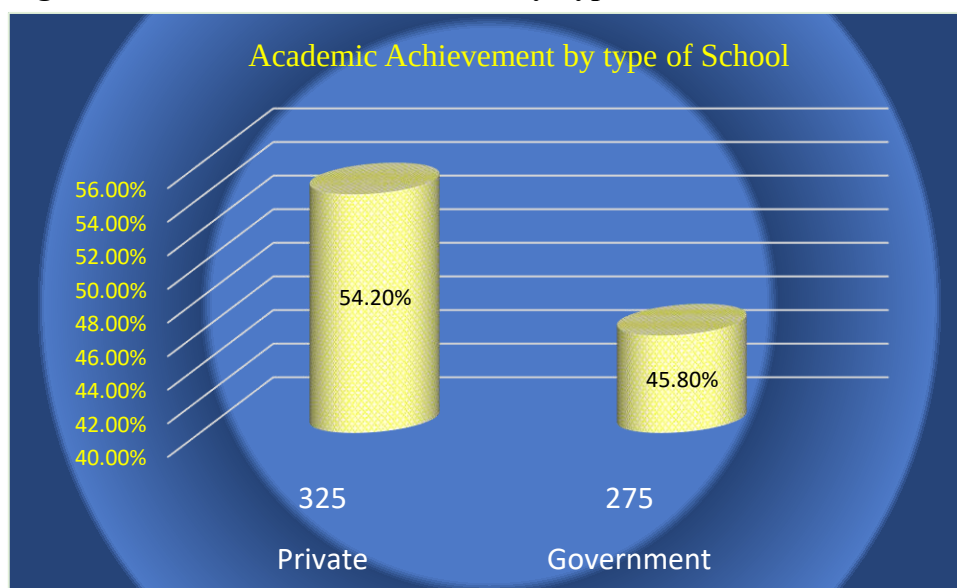
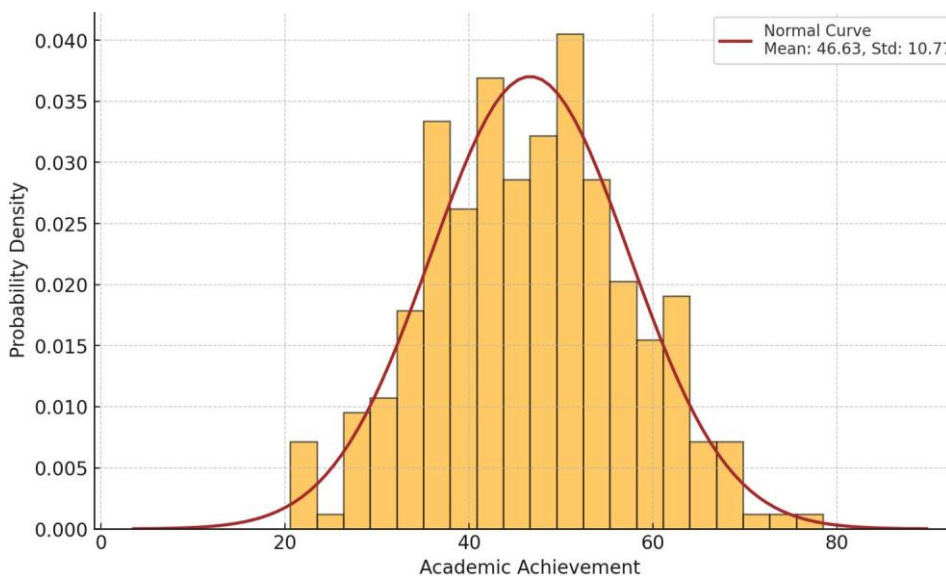


Table 4.9.2: χ^2 test for School Type on Academic Achievement

Test	Value	df	Sig.
Pearson Chi-Square	254.017	214	0.032
Likelihood Ratio	337.396	214	0.000
Linear-by-Linear Association	33.19	1	0.000
N of Valid Cases	600		

Source: Field Data

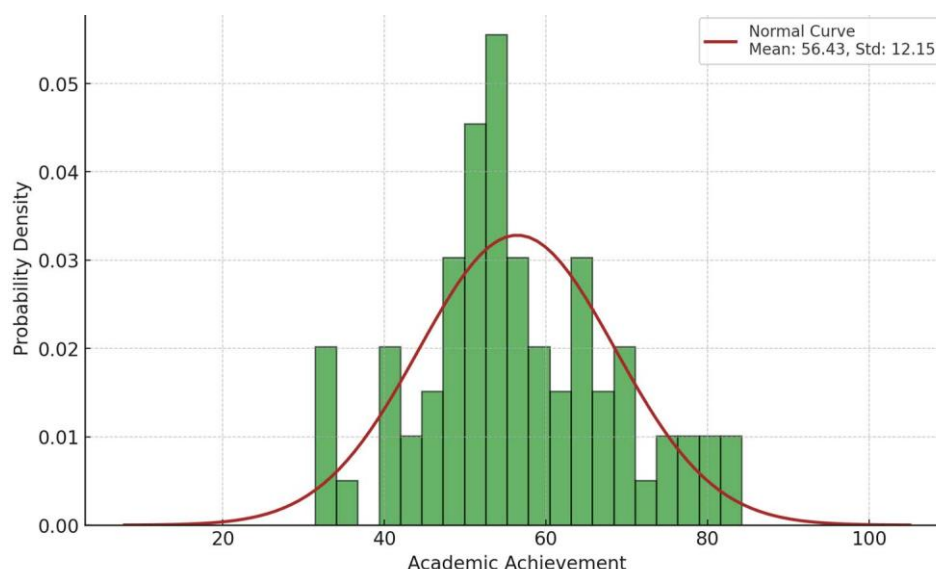
The Pearson Chi-Square test table reveals a significant values depicting the various types of relationship and association between the school type and academic achievement. The significant value of 0.032 indicates that there is statistically significant relationship between the school type and academic achievement as the significant value is smaller than the threshold mark of $\alpha=0.05$. Both the Likelihood ratio and Liniear-by-Linear Association of school type and academic achievement are significant and have a close association as the significant values are smaller than the significant level of 0.05.

Figure 4.7.6: Academic Achievement of Students' Mother with Matriculate

Source: Field Data, PNG image generated from ChatGPT, 2024

The academic achievement of students with matriculated mothers ranges from 20 % to 80%. However, most students fall within the range of 35% to 65%. The deviation is quite significant, ranging from 20% to 80%.

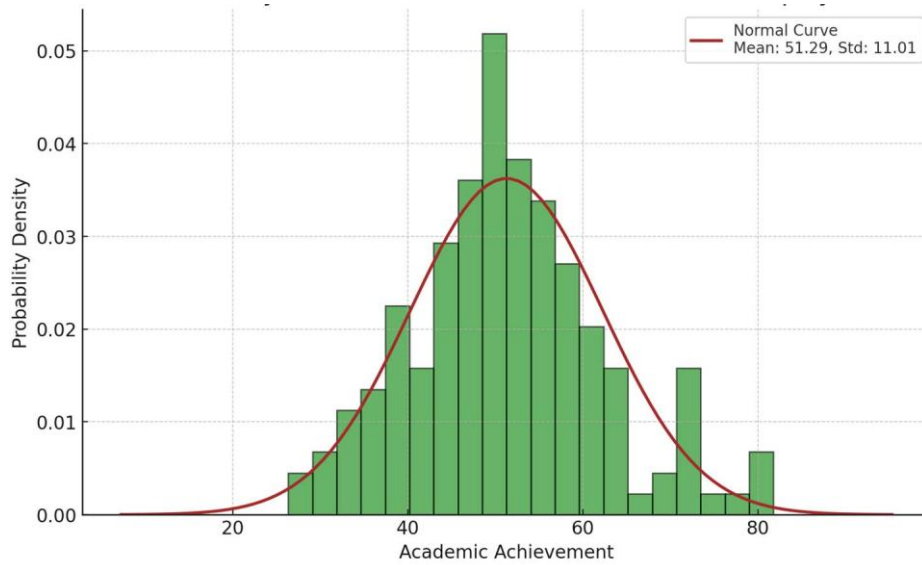
Figure 4.7.7: Academic Achievement of Students with Graduate Mothers



Source: Field Data; PNG image generated from ChatGPT,2024

Here, the distribution is normal, with most scores centered from 55 to 60, indicating that most students' scores are clustered around these points. The distribution is roughly symmetrical, with mild skewness tilting towards the left—about 68% of the distribution falls within the mean of 44 and 68. Therefore, the academic scores of students of graduate mothers are primarily concentrated in the mid-range, which is not very high nor very low. However, there are two variations from 35 to 85.

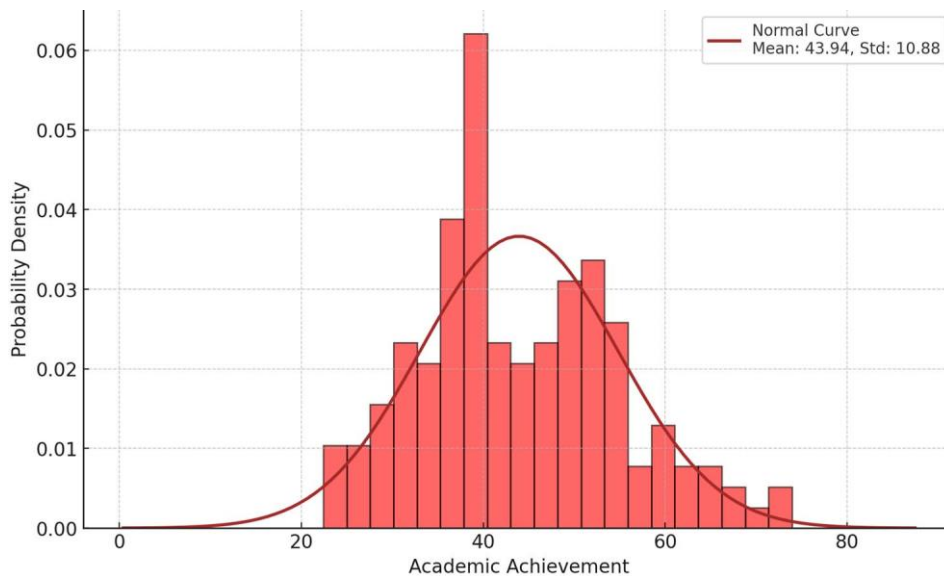
Figure 4.7.8: Academic Achievement of Students with Employed Fathers



Source: Field Data; PNG image generated from ChatGPT, 2024

The histogram has a longer tail, indicating that few scores have high achievement. There is a slight positive skewness; most scores fall between 40 and 60. However, the peak is around 50 to 55, indicating that most students scored within this range. The positive skew suggests that most students score around the mean, but exceptional students score much higher. Hence, we conclude that students coming from working parents have higher academic achievement.

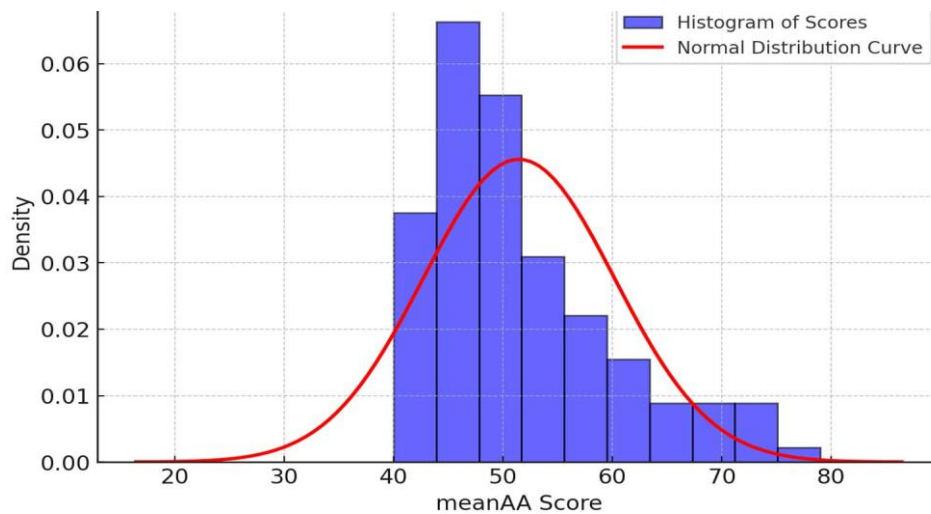
Figure 4.7.9: Academic Achievement of Students with Self-Employed Fathers



Source: Field Data; PNG image generated from ChatGPT, 2024

The score in this section is centered around 35 -45, but few scores cross 60. There is a very high peak at 40, indicating that most of the students are scoring around this grade. The distribution appears leptokurtic or has higher kurtosis, with a high peak but thinner tails. The right skew indicates that most students score around 40, with a few exceptions of scoring higher. Nevertheless, the academic achievement under this category is below average.

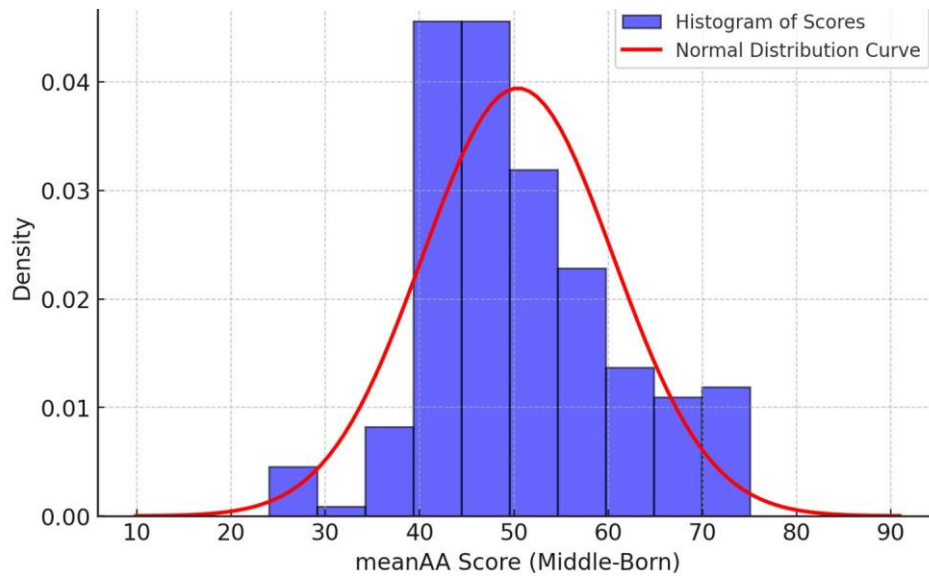
Figure 4.8.0: Academic Achievement of the Firstborn in the Family



Source: Field Data; PNG image generated from ChatGPT, 2024

The histogram is rightly skewed, with scores from 45 to 50. The data are not even distributed on the curve. However, the tail is skewed on the right, with a longer tail, suggesting that few students are outstanding in their academic achievement, crossing above the average.

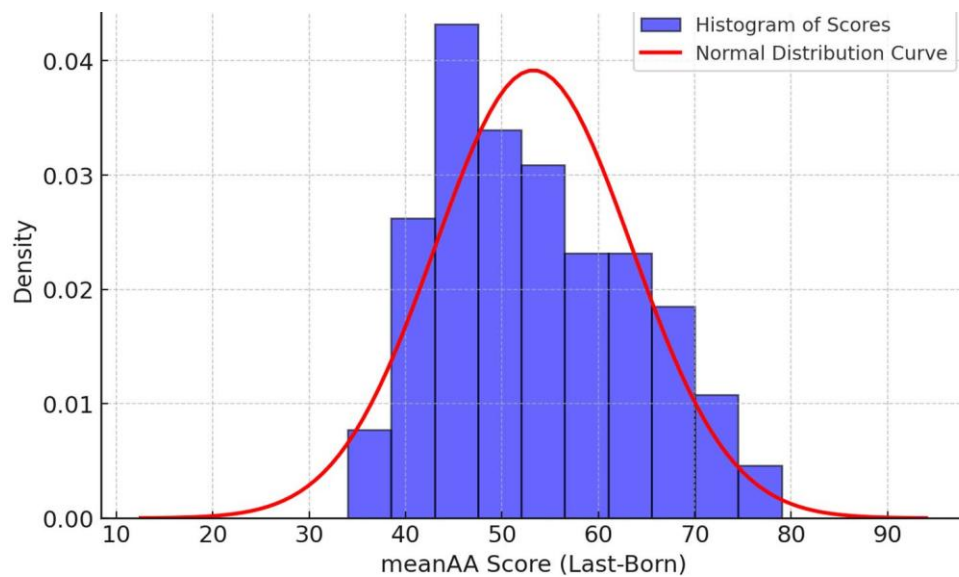
Figure 4.8.1: Academic Achievement of Middle-Born in the Family



Source: Field Data; PNG image generated from ChatGPT, 2024

A slight right skew with a longer tail indicates that a few individuals scored higher than the majority. The peak of the score is centered around 45-50 as the maximum range. The abnormal distribution indicates wide individual variations in students' academic achievement scores.

Figure 4.8.2: Academic Achievement of the Last Born in the Family



Source: Field Data; PNG image generated from ChatGPT, 2024

The last-born histogram is more evenly distributed; most scores are clustered from 40 to 60. However, the peak scores are centered around 45 to 55. A slight right skew with a longer tail on the right indicates that some higher scores are distributed in that range.

Table 4.9.3: Summary Table of the Three Birth Orders' Academic Achievement Represented in the Normality Curve

Birth Order	Peak Score Range	Skewness	Spread	Fit to Normal Curve
First-Born	45-50	High Positive Skew	Low to Moderate	Least Fit
Middle-Born	45-50	Moderate Positive Skew	Moderate	Moderate Fit
Last-Born	45-55	Low Positive Skew	Highest	Best Fit

Source: Field Data

4.1.6. ANOVA Test on Academic Achievement Based on Location

Table 4.9.4: A One-Way ANOVA On Academic Achievement Across Location: Urban and Rural

VARIABLE	Source of Variation	Sum of Squares	df	Mean Square	F	p
LOCATION	Between Groups	517.77	2	258.88	2.411	0.09
	Within Groups	64106.20	597	107.38		
	Total	64623.97	599			

Source: Field Data

The above table presents a test that examines whether there is a statistically significant difference in mean academic achievement across urban and rural locations. The difference in academic achievement mean between urban and rural is not statistically significant as the value of p, 0.09 is greater than the standard significant level of $\alpha=0.05$. This implies that the location-based does not have a substantial effect on academic achievement.

4.1.7. ANOVA Test for Academic Achievement Based on Gender

Table 4.1.7: A two-way ANOVA for Academic Achievement based on Gender

Source	df	F	p	Partial Eta Squared	Observed Power	Error	Correct	N
Corrected Model	7	7.44	0	0.08	1		Total	
Intercept	1	5360.94	0	0.90	1	592	599	600
School Type	1	7.75	0.006	0.01	0.794			
Gender	3	4.02	0.008	0.02	0.84			
School Type × Gender	3	2.52	0.057	0.01	0.624			

Source: Field Data

A two-way ANOVA test between academic achievement, gender, and school types shows the following results. In the overall model, it is significant that at least one independent variable significantly affects educational achievement. Here, the f value is 7.44 and $p=0.0$, showing a significant effect as it exceeds the marking level of $\alpha=0.05$. There is an essential effect in the school type as the $p=0.006$ exceeds the threshold value of α of 0.05. Students from government and private schools perform differently in academic achievement and the effect size is marginal with 0.013.

There is a significant gender effect on academic achievement, as the p-value = 0.008, beyond the threshold value of $\alpha=0.05$. This indicates a significant difference in educational attainment between boys and girls. Here, the effect size is 0.020, which is marginal. However, it is meaningful. There is no significant effect on school type and gender. The value of $p=0.057 > 0.05$ implies that the impact of school type on academic achievement does not depend on gender.

4.1.8. ANOVA test for Fathers' Education on Academic Achievement

Table 4.1.8: ANOVA for Father's Education on Academic Achievement

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	3936.77	2	1968.39	19.36	0
Within Groups	60687.20	597	101.65		
Total	64623.97	599			

Source: Field Data

The overall ANOVA test shows a significant result regarding the impact of students' education on their academic achievement. The considerable value of $p=0.00$ indicates a statistically significant difference in academic achievement among the three levels of fathers' education. The effect size of between-group variance is 3936.77 against the within-group variance of 60687.19.

This implies that the educational level plays a meaningful role in the student's academic achievement. However, to make things more transparent, let us now view how much the father's educational qualification influences the students' academic achievement. We now turn to Post Hoc tests based on fathers' education for academic achievement.

4.1.9. Post Hoc Test for Academic Achievement on Father's Education

Table 4.9.7: Post Hoc Test, Academic Achievement Based on Fathers' Education

Fathers' Education	Mean Difference	p	Sign	95% Confidence Interval
Up to 10 vs. HS	-1.6	0.367	NS	(-4.38, 1.18)
Up to 10 vs. Graduate & Above	-8.05	0	S	(-11.10, -5.00)
HS vs. Up to 10	1.6	0.367	NS	(-1.18, 4.38)
HS vs. Graduate & Above	-6.45	0	S	(-10.26, -2.65)
Graduate & Above vs. Up to 10	8.05	0	S	(5.00, 11.10)
Graduate & Above vs. HS	6.45	0	S	(2.65, 10.26)

Source: Field Data

The above table shows that graduates and above have higher academic achievement than parents with Matriculation and higher secondary degrees. There is no significant difference between class ten and higher secondary, except for the graduates and above. There is a significant difference in academic achievement between students' fathers qualifications and those of graduates and above. Hence, we conclude that better academic achievement is proportional to a higher father's

academic profile. To make the picture more transparent, let us see the percentage presentation.

Table 4.9.8: Academic Achievement Based on Father's Education

Father's Education	N	Mean	% Score
Up to 10	443	49.91	49.91
High School	87	51.51	51.51
Graduate & above	70	57.96	57.96

Figure 4.8.3: Academic Achievement based on Father's Education

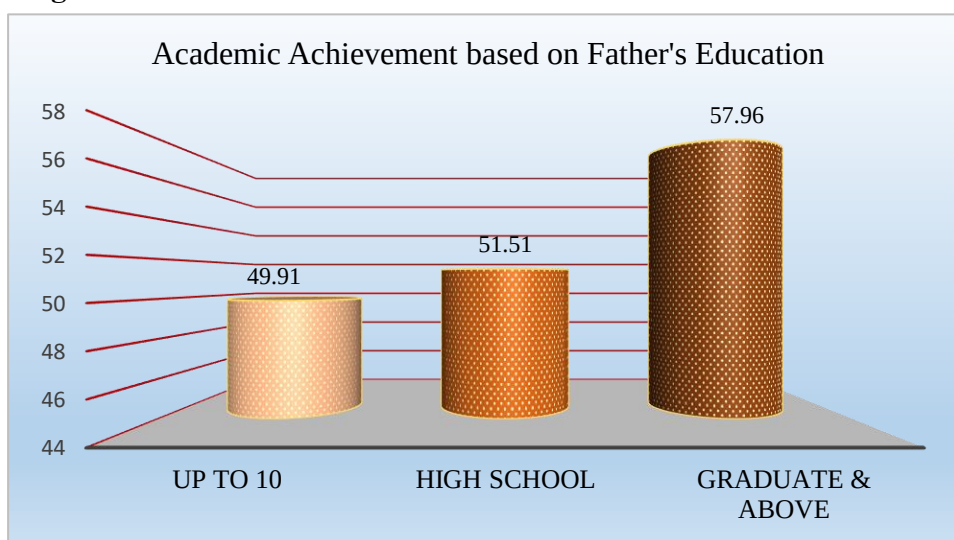


Table 4.9.9: Mean Score of Multiple Intelligence, Academic Achievement and Study Habits Against Birth Position

Variable	Birth Order	Mean Score	SD	f	p
MI	First Born	12.3	2.02	1.067	0.363
	Middle Born	12.34	2.18		
	Last Born	12.44	1.95		
AA	First Born	52.25	10.56	2.53	0.056*
	Middle Born	49.92	10.07		
	Last Born	52.22	10.65		
SH	First Born	2.56	0.28	1.624	0.183
	Middle Born	2.54	0.29		
	Last Born	2.54	0.34		

Source: Field Data

The above table tabulates the mean scores of the three dimensions of multiple intelligence, academic achievement, and study habits based on the birth positions. A one-way ANOVA test is done for three variables computed that in multiple intelligence mean score, the last born of the family achieves the maximum score. There is no significant difference between the groups as the value of $p=0.363$ is greater than the significant value of $\alpha=0.05$. The value of f is also small, indicating a marginal difference among the mean scores.

The firstborn achieves the highest mean score in academic achievement. The value of p , 0.056, indicates a significant difference among the groups, as it is almost lower than the threshold value of $\alpha=0.05$. There is a correlation between the academic achievement of the firstborn and the birth order, as both of these birth orders score the highest mean value. In study habits, the firstborn achieves the highest mean score, indicating that the firstborn has better study habits, leading to higher academic achievement, which is proven in the above table in the academic achievement variable. The value of p , 0.18, exceeds the significance value of $\alpha=0.05$; therefore, birth order does not impact study habits.

4.2.0. Regression Analysis

Table 4.10.0: A Regression Output of Parental Education Effect on Academic Achievement

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4481.306	2	2240.653	22.242	.000 ^b
	Residual	60142.662	597	100.741		
	Total	64623.968	599			

Source: Field Data

- a. Dependent Variable: mean Academic Achievement (AA)
- b. Predictors: (Constant), Mother Education, Father Education

The above table depicts the ANOVA table of regression analysis on the effect of parents' education level on academic achievement. The value of the significant of $p=0.00$ is smaller than $\alpha=0.05$, which indicates that there is a statistically significant level of parental education on the impact of the student's academic

achievement. Hence, we conclude that father's and mother's education can substantially predict academic achievement. The F-value of 22.24 indicates a stronger fit to the ANOVA model. Parental education, which predicts student academic achievement, explains a significant variance in this achievement. However, this variance is marginal as the regression residual (R^2) value is 0.069, which is 6.96%.

Table 4.10.1: The Coefficient Table of Regression Analysis

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	p
		β	Std. Error	β		
1	Constant	44.55	1.07		41.72	.000
	Father Education	2.46	.701	.162	3.50	.000
	Mother Education	2.54	.840	.140	3.02	.003

Source: Field Data

From the above table of the coefficient of regression analysis on the prediction of father's and mother's education on academic achievement, we can notice from the values of p that there is a significant impact and prediction. Here, the value of $p=0.00$ is lower than the significance value of $\alpha=0.05$. Hence, we conclude that the father's education level can predict the students' academic achievement. This implies that every increase of one point in the father's education will lead to a 2.46 mean academic achievement score. We can identify a significant impact and prediction in the mother's education impact on academic achievement. Here, the value of $p=0.003$ is lower than the threshold points of $\alpha=0.05$; hence, we conclude that the mother's education significantly predicts the academic achievement of the students.

The $\beta=0.140$ shows that there is a moderate prediction on the academic achievement of the students. From the table, we can visualize the values of beta that parental education significantly predicts the academic achievement of the students. However, it can be noted from the beta values of the fathers that it has a more substantial effect than the mothers, as the value of beta for the fathers is slightly higher than the mother's beta value. Here, the father's education $\beta=2.45$, $\beta=0.16$ against the mother's beta value of $\beta=2.53$ and $\beta=0.14$.

Table 4.10.2: Pearson Correlation test table

Test	Value	df	Sig.	N
Pearson Chi-Square	215.975	214	0.449	600
Likelihood Ratio	285.049	214	0.001	
Linear-by-Linear Association	3.986	1	0.046	

Source: Field Data

The Pearson correlation test indicates the relationship between multiple intelligences, academic achievement, and study habits mean score. Given the Pearson Correlation value of 0.107, there is a moderately positive relationship. The value of $p=0.004$ exceeds the significance value of $\alpha=0.05$. Therefore, a significant relationship exists between the mean score of multiple intelligences and academic achievement. There is a proportional relationship between academic achievement and multiple intelligences. This implies that the higher the academic achievement, the higher is the multiple intelligence score.

The mean score of study habits is inversely proportional to the mean score of multiple intelligences. This implies that a high mean score of study habits weighs the lowest mean score of multiple intelligences. The value of $p=0.00$ indicates a significant relationship between the mean study habits score and multiple intelligences. As the value of p is smaller than the significance value of $\alpha=0.05$, we conclude that the negative value of study habits indicates that the study habit mean score has a more substantial predictive value for multiple intelligence than academic achievement.

4.2.1. CONCLUSION

The analysis chapter has outlined the study's findings based on multiple intelligences, study habits, and academic achievement. The findings show a proportional relationship between academic achievement and multiple intelligences. It is to be noted that interpersonal and natural intelligence are dominant intelligence. Although there was some variation in intelligence types by gender and school type, it is not consistently substantial across all domains. These results lay the groundwork for further educational implications in the context of adopting a pedagogical framework in the teaching and learning process.

CHAPTER -V

SUMMARY, FINDINGS, EDUCATIONAL IMPLICATIONS, AND CONCLUSION

Not hearing is not as good as hearing, hearing is not as good as seeing, seeing is not as good as knowing, knowing is not as good as acting; true learning continues until it is put to action.

Xunzi

5.1. Summary Of the Study

5.2. Introduction

Education aims to help students understand the world, prepare for challenges, and recognise their talents. Consequently, they become fulfilled individuals who continuously achieve (Robinson, 2022). Education empowers individuals through an ongoing journey. The focus is empowering individuals to pursue their interests and energies, fostering greater self-actualization (Chomsky, 1972, cited in Corson, 1980). He also highlights the need for education to promote and acknowledge the creative impulses that students naturally possess. Therefore, education must create an environment that nurtures these needs in students, with flexible boundaries that allow children to grow and develop to their fullest extent. If education does not aim to create the fullest individuality, what purpose does it serve?

Education must raise questions that drive humanity to the next level of learning, where there is no threat and experiential learning emerges spontaneously, helping students uncover many possibilities in life (Mitra, 2021). These infinite possibilities can only be crystallised through education. Therefore, education becomes indispensable for defining and refining self-actualisation and enabling personalised decisions that allow students to become who they desire. It is about expanding children's horizons, developing their skills, and deepening their understanding of their true worth, making them capable of aligning their inner world with the external world (Robinson & Aronica, 2018). They further argue that they cannot find their way unless education compels children to understand their unique inner world. This potential for

students to understand and shape their unique inner world should give us hope and optimism about the future of education.

According to Wagner and Dintersmith (2015), education must engage students with their passions and orient them to develop a sense of purpose and mission to achieve an array of pursuits that will empower them to become what they ought to be. In this trend, we should develop and orient our education to allow youngsters to bring out the best of their imagination and understand their self-worth in that particular variant so that they grow in self-confidence and achieve their dreams.

Children need confidence in their dreams, which can inspire them to be more optimistic and self-reliant in pursuing personal goals (Prensky, 2024). It can be much more vibrant when they take charge of their learning and have some autonomy. When education creates a symbiotic relationship between parents, students, and teachers, the teaching becomes more internal and personal. Today, we need such an atmosphere in our education setup (Stixrud & Johnson, 2018).

Education must play a critical role in empowering young students for the careers they will take up in the workforce. Skill education at the secondary level can help students with learning experiences more relevant and valuable than the typical academic subject (Lewis, 2000). In this way, students become successful, innovative, adaptable, and productive in their career options. Every student has innate talents that schools should discover, nurture, foster, and develop (Ministry of Education, 2020).

The current pattern of a “one-size-fits-all” approach to education, with slight variation or modification, has not empowered students to bring out their best. All students in a given course receive the same type of instruction, assignments, learning assessments, and pre-defined assessment schedules. This rigid structure does not support students who exhibit “singular interests” or “talents” beyond the school curriculum. There is an urgent need for a more flexible and personalised approach to education that can cater to each student's unique strengths and interests while fostering a more supportive and inclusive learning environment. The urgency for this change is palpable, and it is time we address it.

There is concern that education is not adequately equipping students with the skills, aptitudes, and approaches to the knowledge they will need to prosper in the future (Leadbeater, 2002, cited in Roberts & Owen, 2012). Their rote learning, which is deeply embedded in the learning system, is ineffective in bringing out the best in students. Learning is not designed for students with clear futures and explicit learning

goals. Instead, we should encourage scaffolded learning activities to help students develop metacognitive strategies, emotional and motivational understanding, and regulatory skills. These skills can enhance the affective side of their minds, which refers to the emotional and motivational aspects of learning. The affective side is as important as the cognitive side in promoting holistic development (Roberts & Owen, 2012).

Parents want the best education for their children. However, the best in education is often defined in terms of stiff competition, cracking some of the toughest exams in ranking schools, and making the exam the goal of education. Exam-oriented education rejects students as less clever and excludes them from mainstream society. We need to rethink more carefully what education is offering to our children and to what extent it is serving them in helping them choose a profession that fits current needs (Farr, 2019).

McNulty (2012), in his foreword, argues that we live in an educational environment obsessed with test scores, control, and predictability. As a result, we base most school improvement plans on cognitive assessments drawn from test results. We design solutions for poor student performance around specific content that they struggle to master, and we evaluate their weaknesses by labelling them as inferior. This approach perpetuates injustice toward their holistic development.

5.3. Need and Importance of the Study

Our education system focuses predominantly on linguistic and logical-mathematical intelligence, often neglecting students with other intelligences, such as artists, architects, musicians, designers, dancers, speakers, and others who enrich our world. These students, with their unique talents, often receive little reinforcement and encouragement in their schools. Many end up receiving labels of dullness or incapacity. This emphasis on linguistic and logical-mathematical intelligence can make many students feel inferior, less intelligent, and incapable in our current education system. To create a more inclusive and supportive learning environment, it is crucial to recognise and nurture these diverse talents. This recognition and nurturing of diverse talents is not just a suggestion but a necessity for the future of education.

According to the traditional definition, intelligence is a uniform cognitive capacity that people are born with. Short answer tests can easily measure this capacity. However, Gardner argues otherwise. He suggests that intelligence signifies the ability

to create an effective product or provide a service valued in a culture, a collection of skills that enables a person to solve real-world problems, and the potential to find or create solutions for issues, which involves acquiring new knowledge. Children are required to answer questions orally, fill in blanks, or complete other paper-and-pencil tasks in the traditional test, which tends to favour students with strong linguistic and logical-mathematical abilities, while discouraging those who may be weaker in these areas but excel in one or more other domains (Armstrong, 2000).

Intelligence is practical only regarding what people can and cannot do with their lives. Growing up requires developing marketable skills based on what we learnt in a formal setting. Utilising this knowledge is not accomplished through linguistic and mathematical intelligence alone, but through various factors, such as systematic effort, discipline, motivation, and hard work (Schaler, 2006).

The schools and the parents' community also focus on each child's inner capabilities. We have known for many years that humans use only a small fraction of their potential. According to Armstrong (2000), when we limit the label of giftedness to a select few, we deny access to millions of people with immense inner potential.

People also believe that students lack the skills to handle the increasing market demands and manage stress. They seemed to lack the support to reinforce skills for finding their path in the competitive world (WHO, 1994).

Children deserve to have their individuality and uniqueness fostered; they need space to be themselves in the classroom. The classroom should provide a conceptual space where children can think, talk, enact, improvise, move, feel, create, craft, and forge their ideas in collaboration. Students require control over their learning environments, as infinite possibilities await their realisation. The students cannot be confined to one stream of learning and becoming; they are offered a landscape of options to mould and maneuver themselves (Grimmer et al., 2005).

MI theory suggests that the domain of cognitive abilities alone does not limit intelligence, but is limitless. In this sense, intelligence is not merely an unfolding of what is innate and internal; it also includes culture as a factor in its expression. However, this potential may or may not crystallise, depending on what resources are available in a particular society (Craft, 2002). This is why schools must nurture the diverse talents and interests of students. By doing so, a balance is achieved between academic and vocational programs, allowing students to place equal importance on developing their areas of interest and aspirations (Robinson, 2016). We all possess

different strengths across various intelligences. Education must provide equal opportunities in all dimensions so that children can enhance their abilities and discover ways to express their individuality (Robinson & Aronica, 2009). NEP 2020 emphasises that, at every stage of education, there must be recognition, identification, and cultivation of the unique capabilities of each student, enabling both parents and teachers to promote holistic development and support students' interests.

5.4. Statement Of the Problem

The research problem is:

“Multiple Intelligence, Study Habit, And Academic Achievement of Class X Tribal Students in Nagaland”

5.5. Objectives Of the Study

1. To investigate the differences in Multiple Intelligences concerning demographic variables of class X tribal students in Nagaland.
2. To study the academic achievement of their study habits
3. To examine the influence of study habits, academic achievement, and socioeconomic status on Multiple Intelligences.
4. To study the relationship between Multiple Intelligence, Academic Achievement, and Study Habits of class X tribal students in Nagaland

5.6. Hypotheses

The null hypotheses are formulated as follows:

5.6.1. There is no significant difference between Multiple Intelligences:

- H₀₁: Between urban and rural students.
- H₀₂: Between boys and girls in secondary schools.
- H₀₃: Between private and government schools.
- H₀₄: Between different tribes of Nagaland.
- H₀₅: Between the different birth positions of the family.

5.6.2. There is no significant difference in Academic Achievement:

H₀₁: Between urban and rural students.

H₀₂: Between boys and girls in secondary schools.

H₀₃: Between private and government schools.

H₀₄: Between high socio-economic and low socio-economic students.

H₀₅: Between different tribes of Nagaland.

H₀₇: Between the different birth positions of the family.

5.6.3. There is no significant difference in Study Habits:

H₀₁: Between urban and rural students.

H₀₂: Between boys and girls of secondary schools.

H₀₃: Between private and government schools.

H₀₅: Between different tribes of Nagaland.

H₀₇: Between the different birth positions of the family.

5.7. Conceptual Clarification

5.7.1. Tribe

The word tribe is derived from the Latin term *tribus*, denoting ancient Rome's administrative divisions and voting units. It was first used in biblical texts in Middle English in the thirteenth century to refer to the thirteen divisions of the early Israelites. However, by the sixteenth century, social anthropologists began to apply the concept of race and lineage (Sneath, 2016). David & Whitten (1976) define it as “tribals are characteristically small-scale groupings that display some form of cultural unity; the members themselves explicitly recognize some affinity toward each other.”

5.7.2. Intelligence:

Intelligence originates from the Latin verb " *intellegere*, " which translates to " to understand. " Numerous psychologists have offered their definitions; however, Roger contends that intelligence lacks meaning without contextual relevance. He defines intelligence as ‘the purposive adaptation to, shaping of, and selecting of real-world environments pertinent to one’s life’ (Stenberg, 1985). He further stresses that intelligence should apply to an individual’s behavior within a specific environment,

noting that the intelligence of an African pygmy may not hold relevance in American culture, and vice versa.

Gardner, in his *Intelligence Reframed* (1999), defines intelligence as a “biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in a culture.” In this process he brings out his multiple intelligence theory and propounds different types of intelligence as follows:

5.7.3. Multiple Intelligence

Gardner argues that we do not possess only one type of intelligence but intelligence is an interplay of various types of intelligence which is always at play in any given person. Some have one area more and some less depending on the biopsychological upbringing. Therefore, he suggests the following types of intelligence.

1. **Linguistic Intelligence:** Linguistic intelligence involves the ability to learn languages, and the capacity to manipulate the syntax structure of language, the sound of language, and the practical use of language for communication.
2. **Mathematical Intelligence:** This intelligence involves the capacity to analyse abstract problems logically, carry out abstract operations with figures, and use one's mind to infer conclusions and deduce mathematical issues logically.
3. **Visual Intelligence:** Visual intelligence involves the ability to see patterns of colours and create presentable images.
4. **Physical Intelligence:** This type of intelligence involves using one's body partly or wholly and manoeuvring with ease and agility for the desired movement and output.
5. **Musical Intelligence:** Expert in identifying musical notes and the ability to learn music, compose songs, and perform musical expression.
6. **Interpersonal Intelligence:** It is the ability to understand the mood, feelings, and intentions of others.
7. **Intrapersonal Intelligence:** Intrapersonal intelligence involves understanding oneself and regulating one's life for a meaningful and purposeful living.
8. **Naturalist Intelligence:** A naturalist intelligence exhibits recognition and understanding of the natural world.

5.7.4. Academic Achievement

Academic Achievement is the progress made toward acquiring educational skills, materials, and knowledge, usually spanning various disciplines. It refers to achievement in academic settings rather than general knowledge acquisition in non-academic settings (Bolt,2011).

Academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university (Steinmayr et al., 2016).

5.7.5. Study Habit

A study habit is a well-planned and deliberate action of study that has led students to understand a given subject and pass the examination consistently. Study habits determine students' academic achievement. Study habits and academic achievement are related. Better study habits lead to better academic achievement (Capuno et al., 2019).

Study habits are primary blocks in helping students achieve high academic grades and achievement. Therefore, the relevance and importance of this systematic study habit cannot be ignored or set aside totally depending on head wit and motivation alone. When a positive habit is formed, it becomes a hinge on which other things can be accomplished easily (Clear, 2018).

5.8. Review Of Literature

The review of Related literature is done on different themes:

- i. Review of studies done on Multiple Intelligence abroad
- j. Review of studies done on Multiple Intelligence in India and Region
- k. Review of studies done on the Application of Multiple Intelligence Theory
- l. Review of Critique of the Multiple Intelligence Theory.
- m. Review of Rebuttal to the Critique on Multiple Intelligence
- n. Review of Studies on Study Habit done in Abroad and India
- o. Review of studies on Academic Achievement done abroad and in India.

5.9. Research Design

5.9.1. Method

In this study, the researcher uses the quantitative and descriptive survey methods to investigate the Multiple Intelligence, Academic Achievement, and Study Habits of Class X Tribal Students of Nagaland.

5.9.2. Selection Of Sample

Twenty-five students were selected from each school for research using a stratified sampling technique. Thus, 600 students were gathered from 24 different schools across six districts in Nagaland. The two types of management from which the samples were drawn were government and private.

5.9.3. Tools For Data Collection

The researcher used the following tools to collect data for the present study.

4. To measure the Multiple Intelligences of the class X students, the researcher used the standardized tool developed by Dr Terry Armstrong in 1999.
5. The final grade mark for the Academic Achievement of class X students was collected from the respective schools.
6. The investigator has constructed a Study Habit tool to measure or collect the study habits of class X students.

5.9.4. Scoring Pattern

The scale's scoring is based on the summation method given by Likert (1932). Hence, it is 5; mostly like me is 4; somewhat like me is 3; a little like me is 2; and finally, not at all like me is 1.

5.9.5. Reliability And Validity

The split-half method was applied in SPSS 22 to determine the scale's reliability and coefficient. The Spearman-Brown coefficient was calculated to be 0.947, Cronbach's Alpha was 0.970, and the Guttman Split-Half coefficient was 0.942.

5.9.6. Data Collection

The data were collected using Thomas Armstrong's Standardized Scale of Multiple Intelligence (199) and the researcher's developed Study Habits of Class X Tribal Students of Nagaland. The final GPA score was obtained from the School for Academic Achievement.

5.9.7. Statistical Technique Used

The following statistical techniques were used to analyze the data:

7. Mean and standard deviation (SD) were computed to assess the students' Multiple Intelligences (MI) values.
8. Pearson's Product-Moment Correlation technique was applied to determine the correlation between academic achievement and MI.
9. A t-test was done to establish the difference in the relationship between students' MI concerning gender, tribe, district, management, and locality.
10. A one-way ANOVA and t-test of mean and standard deviation were used to analyze the mean of more than two groups within the same variable: academic achievement and study habits.
11. Two-way ANOVA was used to study the influence of study habits on academic achievement among tribal students of Nagaland.
12. Three-way ANOVA was used to study the relation or influence among gender, types of management, and locality in academic achievement and multiple intelligence.

5.1.0. Analysis Of Data

The sample response sheets were collected for coding, scoring, and tabulation. SPSS V.22 and the Microsoft Excel V.2000 package were used for data analysis, and interpretations were made. Graphics and images, such as pie charts, histograms, bar graphs, etc., were used to convey the results of the objectives, hypotheses, and illustrations of the research outcomes.

5.1.1. Findings

5.1.2. Objective-1: To investigate the difference in Multiple intelligences concerning demographic variables of Class X Tribal Students in Nagaland.

5.1.3. Multiple Intelligence

- ☞ Out of 16 tribes collected through the sample in six districts, the Angami, Ao, and Rongmei scored the highest with 54%.
- ☞ In mathematical intelligence, the Rongmei tribe scored the highest with 54.17%. Just below this margin are the Angami and Ao tribes with 54.11% and 54.04% respectively.
- ☞ In interpersonal intelligence, the Phom tribe scored the highest, with 74.16%, followed by the Angami, which scored 74%.
- ☞ In linguistic intelligence, the Konyak tribe scored the highest, 70%, and no other tribe has ever reached this score.
- ☞ In Musical intelligence, the Rongmei tribe scored the highest, with 67.5%, followed by the Ao tribe, with 64.04%.
- ☞ In physical intelligence, the Konyak tribe scored the highest, with 71.15%, followed by the Angami tribe, with 70.67%.
- ☞ For visual intelligence, the Konyak tribe scored the highest, with 56.15%, followed by the Angami tribe, with 54.89%.
- ☞ In interpersonal intelligence, the Sangtam tribe scored the highest, with 73.73%, followed by the Konyak tribe, with 71.92%.
- ☞ In natural intelligence, the Zeliang tribe scored 73.35%, followed by the Sumi tribe with 72.145%.

5.1.4. MI Score based on Gender

For boys, the highest MI score is interpersonal intelligence, with 70.17%, while for girls, it is interpersonal intelligence, with 71.06%. Intrapersonal intelligence scores are also highest, at 70.26%, followed by Natural intelligence at 74.9%.

5.1.5. MI Score based on school management

For the government school, the highest mean score is interpersonal intelligence with 14.37, whereas for the private school, intrapersonal intelligence has a mean score of 13.96 and interpersonal intelligence of 13.89.

5.1.6. MI Score based on Locality

For the rural students, interpersonal intelligence scored the highest at 14.35, and natural intelligence scored 14.01. The urban students also scored interpersonal intelligence the highest at 14.

5.1.7. Objective 2: Relationship between Multiple Intelligence, study habits, and academic achievement.

A moderate negative correlation exists between the mean of study habits and multiple intelligence. The Pearson $r = -0.27$ indicates an opposite direction between the two variables. The Pearson value of $r = -0.03$ and $p = 0.34$ indicates a weak negative relationship, but it does bear a significant relationship as the value of p is greater than the designated value of 0.05.

There is a modest positive correlation between the means of multiple intelligence and study habits. The Pearson correlation value of $r = 0.10$ indicates a weak positive correlation between them. The $p = 0.009$ indicates a significant relationship between multiple intelligences and study habits.

Two ANOVA tests on the effect of study habits on academic achievement. The study habit does not affect the academic achievement as the value of $p = 0.21 > \alpha = 0.05$; therefore, there is no evidence to conclude that study habit affects academic achievement. Also, the gender effect on the academic achievement was insignificant as the value of p exceeds the significance value $\alpha = 0.05$.

5.1.8. Regression Analysis

The effect of gender and type of school on multiple intelligence. The results reveal no significant effect of school type on the score of multiple intelligence, except for gender, which has a marginal effect on the score of multiple intelligence. Here, the value of $p = 0.05$ is on par with the significant alpha value of 0.05. Therefore, gender has a marginal effect on the score of multiple intelligences.

5.1.9. Study Habit

Table 5.0: t-test for the mean difference of Gender, School Type, and Locality

SL No	STATEMENT	p	Gender	School Type	Locality
1	Class hours are enough for me to study.	0.009	Girls >	Private>	Urban>
2	I do not read extra materials for exams.	0.01	Boys>	Govt>	Rural>
3	My teachers help me with my high academic record.	0.001	Girls >	Govt>	Urban>
4	I always give myself sufficient time to study.	0.01	Girls >	Private>	Urban>
5	During my free time, I help with house activities	0.01	Girls >	Private>	Rural>
6	I cannot study under pressure from my parents	0	Boys>	Private>	Urban>
7	My study hour is memorizing questions and answers.	0.01	Girls >	Private>	Urban>
8	I discuss with my parents a specific topic for the exam.	0.006	Girls >	Private>	Rural>
9	I do not write anything to remember better	0.016	Boys>	Govt>	Rural>
10	I like to read comics, love stories, and newspapers	0.001	Boys>	Govt>	Rural>

Source: Field Data

Out of 25 sample statements, the above 10 have significant differences across gender, type of school management, and School locality. Selecting a significant p-value indicates a difference in means between the two means, and the above indicates such a result.

1. The class hour is enough for me to study.

Here, the girls significantly agree more than the boys—the value of $p=0.009$ $<\alpha=0.05$. In terms of school type, students of private schools have agreed more

than government school students, but in locality, urban students have agreed more than rural students.

2. I do not read extra materials for exams.

Boys significantly agree more than girls—the p value = $0.01 < \alpha = 0.05$. Nevertheless, regarding the type of school, government school students agreed more than private school students. In the locality, however, the rural students agreed more than the urban students.

3. My teachers help me with my high academic record.

Here, $p = 0.001 < \alpha = 0.05$, indicating a significant difference between boys and girls. It is revealed that girls agree more on teachers helping in academic activities. The urban students in the school type agreed more than the private students. However, in the locality, the rural students agreed more than the urban students.

4. I always give myself sufficient time to study.

There is a significant difference between the scores of boys and girls, as the p -value of $0.01 < \alpha = 0.05$. The result is that girls agree more than boys on giving sufficient time to study.

5. During my free time, I help with household activities.

Here, the value of $p = 0.01 < \alpha = 0.05$, showing a significant difference. The difference is shown by girls agreeing more with the statement that during their free time, they engage more than boys in household activities. For the school type, the private students agreed more than the government school students. In the locality, the rural students agreed more than the urban students.

6. I cannot study under pressure from my parents.

Boys face greater difficulty studying under parental pressure, as the value of $p = 0.00 < \alpha = 0.05$ shows a significant difference between them. In the school type, private students agreed more than government students. However, the urban students agreed more in the locality than the rural students.

7. My study hour is memorizing questions and answers.

There is a significant difference between the genders as the value of $p = 0.01 < \alpha = 0.05$, showing a difference between them. The result indicates that girls agree more with memorizing questions and answers. The private students agreed more than the government school students. In the locality, the rural students agreed more than the urban students.

8. I discuss a specific topic for the exam with my parents.

There is a significant difference between the genders on this score as the value of $p=0.006 < \alpha=0.05$. The result indicates that girls discuss more of their academic problems with their parents. The private students agreed more than the government school students. In the locality, the rural students agreed more than the urban students.

9. I do not write anything to remember better.

As the p value $=0.016 < \alpha=0.05$, we conclude that there is a significant difference across the genders, and boys agree more on this statement, which means girls are more likely to write notes to remember better. The government students agreed more than the private students. However, in the locality, the rural students agreed more than the urban students.

10. I like to read comics, love stories, and newspapers.

There is a significant difference between the genders on this issue as the value of $p=0.001 < \alpha=0.05$. Here, boys agree more than girls, indicating that they read more than girls when spending their time creatively. Regarding the type of school, government school students agree more than private school students. In the locality, the rural students agree more than the urban students.

5.2.0. Hypothesis Testing

1. There is no significant difference in study habits between urban and rural students. The t -value of $0.68 > \alpha=0.05$, hence we accept the null hypothesis.
2. There is no significant difference in study habits between boys and girls in Secondary School. The $p=0.35 > \alpha=0.05$, we fail to reject the null hypothesis that there is no significant difference in study habits between boys and girls.
3. The study habits of private and government school students are not significantly different. Here, the t -value $= 0.97 > \alpha=0.05$; therefore, we fail to reject the null hypothesis that there is no significant difference between them.

5.2.1. Academic Achievement Findings

5.2.2. Hypothesis Testing

There is no significant difference in academic achievement between boys and girls. We accept the null hypothesis as the value of $p=0.48$ exceeds the significance value of $\alpha=0.05$.

There is no significant difference in academic achievement between private and government schools. As the value of $p=0.00$ is smaller than the significance value of $\alpha=0.05$, we reject the null hypothesis that there is no significant difference.

There is no significant difference in academic achievement between urban and rural school students. We reject the null hypothesis as the value of $p=0.029$ is smaller than the significance value of $\alpha=0.05$. Rural students have outperformed urban students in academic achievement.

There is no significant difference in academic achievement across the family's birth positions. We accept the null hypothesis as the value of $p=0.05$ is equal to or lower than the significance level of $\alpha=0.05$.

There is no significant difference in academic achievement among the different tribes of Nagaland. The value of $p=0.00$ is smaller than the significance value of $\alpha=0.05$. Hence, we reject the null hypothesis that there is no significant difference in academic achievement among the different tribes of Nagaland.

5.2.3. Percentage Findings Score of Academic Achievement

1. Across the genders, girls' academic score is 54.83% against boys' score of 45.17%
2. Rural students score 51% in the locality while urban students score 49%.
3. In the school type, the private school scored 54.20% while the government school scored 45.80%.

5.2.4. Academic Achievement Results from the ANOVA test.

-  The last-born children have the peak score range on the normality curve.
-  A one-way ANOVA test reveals that the location-based factor does not substantially affect academic achievement.
-  A one-way ANOVA test on the effect of Father's education on academic achievement reveals that it significantly affects academic achievement.

- 🏫 A two-way ANOVA test reveals a significant effect of gender on academic achievement.
- 🏫 The post hoc test for academic achievement based on the father's education reveals that academic achievement is directly proportional to the father's education level. The higher the father's education level, the better the academic achievement.
- 🏫 Regression analysis reveals that parental education level can impact and predict the students' academic achievement.
- 🏫 The Pearson Correlation test of multiple intelligence, study habits, and academic achievement reveals a proportional relationship between academic achievement and multiple intelligence.
- 🏫 Study habits have no significant effect on academic achievement. However, study habit mean score has a more substantial predictive value on multiple intelligences than academic achievement.

5.2.5. Educational Implications

The eight districts' mean score of multiple intelligences reveals that interpersonal intelligence is the dominant score among students. It is, therefore, important to see the nature and implications of students with high interpersonal intelligence scores. Interpersonal intelligence operates primarily through person-to-person relationships and communication. It is the ability to relate to and understand others. In the words of Gardner (2007):

Interpersonal intelligence builds on a core capacity to notice distinctions among others, in particular, contrasts in their moods, temperaments, motivations, and intentions. In more advanced forms, this intelligence permits a skilled adult to read the intentions and desires of others, even if they have been hidden (p.14).

These types of students try to see things from other people's point of view. They also try to maintain peace in group settings and encourage cooperation. They use both verbal and nonverbal language to open and communicate with each other.

Students with interpersonal intelligence are good at showing concern for other people. Playing games with friends is one of their favourite activities, and they like joining groups or clubs that help them actualize their hobbies (Conklin & Frei, 2007). They negotiate and relate well, have many friends, enjoy group activities, and are loyal to each other. Students of this type are easily approached through activities in which they become fully engaged, making learning a joyful experience and lasting and eventually self-directing (Gardner, 1999).

When students learn from experience and through group dynamics, their behaviours are shaped, motivation is raised, and learning interest is sustained. This gives the students the opportunity and process to internalize their learning content and enhance their interpersonal intelligence (Hoer et al., 2010). They have the skill of understanding and realizing what others feel, think, and need. They value trust, empathize with others, and can tune in to others' pain and laughter (Caldwell, 2025).

-2.5.1. Pedagogy and Curriculum Instruction

A teacher needs to be creative and very communicative in the teaching-learning process and curriculum delivery. Here, communication is not only verbal, but one also needs to pay close attention to non-verbal language such as eye contact, body language, facial expression, and responding to the task given in class, home tasks, and beyond. In the teaching-learning process, care should be taken to create the following:

1. Provide cooperative learning activities and project work. This approach to teaching and learning in the classroom can become a very effective means if a teacher realizes the potential within the students. The above data of multiple intelligence scores indicate students' high interpersonal intelligence. Therefore, they will work very well when learning is beyond the teacher-centered approach (Menezes, 2007).
2. Another aspect of this approach to teaching and learning is reciprocal teaching and learning, which features students engaging in the learning process together. In it, the teacher first demonstrates and gives students ways of articulating their views and opinions to the group and the concerned teacher (Gardner, 1999). Hands-on activities and project work can arouse the curiosity of the students. When the students are curious about knowledge, learning already takes place. As the familiar adage goes, curiosity is the mother of invention.

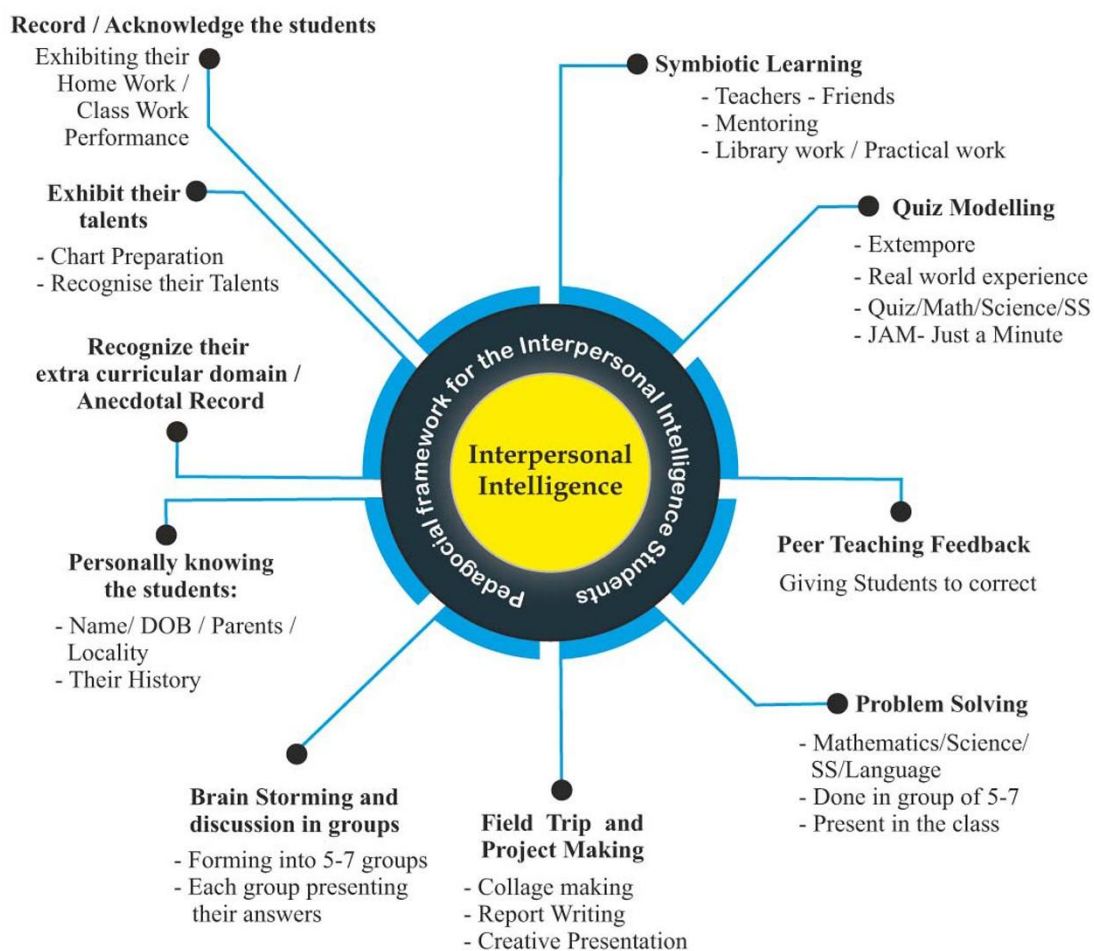
3. Provide opportunities for peer teaching and peer evaluation of students' learning processes in the classroom with the teacher's guidance and support.
4. Organize field trips in relation to the lessons, creating a classroom in nature and bringing nature into the teaching-learning process. Through this process, learning becomes very innovative and supportive for all types of learners, especially children endowed with a high degree of interpersonal and natural intelligence.
5. Create a space where there is person-to-person communication. Brainstorming activities can be one such activity where students can think and create knowledge for themselves. Here, the teacher's role is that of midwifery, facilitating the whole learning process. In this setup, the teacher is not the center of the learning process, but the students are the center of their own learning process. When students are allowed to engage in the learning process, they take responsibility for their learning and show a keen interest in learning.
6. Break into small groups to socialize for deeper learning and sharing. When you make teaching-learning fun, learning becomes engaging for the students. Learning is no longer a burden to carry on, but a student's responsibility.
7. Use pair-share activities and develop a symbiotic learning system. Giving a pair in learning, and giving feedback to each other, especially in the secondary and higher secondary classes. This will go a long way in sustaining the interest in in-depth learning.
8. Helping students to find their passion. Every student is a gifted child. It is the great responsibility of the teacher to discover and empower every student in the class. Learning becomes purposeful and oriented when students are encouraged and affirmed in their abilities, which will connect with their future dreams.
9. Teachers should motivate students, especially those with a strong inclination toward nature, to bring naturalist issues to the class that will connect to the market and business prospects in the future (Conklin & Frie, 2007).
10. Provide a jigsaw classroom in which each student has an opportunity to create an answer and relate it in a group, after which the group presents the answer to the classroom.

-2.5.2. Reinforcing Interpersonal Relationships for Effective Learning

1. Know the students' names individually. Every student comes to the classroom with a tag hanging around their neck, which makes me feel important.
2. Compliment them for their timely presentation of class assignments and reward them accordingly with appreciation and giving points and grades.
3. Know their hobbies and discuss their values for developing them.
4. Remember their birthdays. Every student is looking for affirmation, acceptance, and recognition. Everyone has a tag hanging around their neck that reads, 'Please make me feel important.'
5. Know their favorite colours, songs, movies, food, dress, and idols.
6. Point out their mistakes privately, one-to-one with fraternal correction. This will go a long way in developing a deep respect and bond between the teacher and the student.
7. In the classroom presentation, do not focus on their mistakes, but on their strengths and the talents that they display.
8. Know their background, including their parents' names and social connections. However, prudence is required as this may develop undesired relationships.
9. Be on time, and when there is an opportunity, display your day's class presentation on the board for all learning styles: visual, conceptual, and kinaesthetic learners.
10. Always avoid labelling students in the class, even though they may be at fault. Find creative ways of communicating without belittling the students.

Teachers play a key role in making learning a joyful and experiential event. By this type of classroom experience, students do well academically and their professional life is already streamlined with the academic profile. It is in this context that students have to be motivated and pursued to bring out the best in them. The creativity and attitude of the teachers towards the students is paramount important in sustaining students' interest in learning (Muzamil, 2022). Below is reinventing the teaching learning process on the basis of the findings of dominant intelligence of students' multiple intelligence. Through adopting in pedagogical framework, the reciprocity in learning can improve tremendously

Figure 5.1: **Pedagogical Framework for Students with Interpersonal Intelligence**



Source: Adopted from Research Methods, 2025

-2.5.3. Classroom and Beyond

Students with high interpersonal intelligence look for education beyond reading, writing, and arithmetic, but rather, on bright heads, skilled hands, and a sensitive heart. It is not content for the head alone, but skills of professional development and kindness of the heart that they personalize and assimilate for the rest of their life (Sharma, 2022). They will not only treasure what a teacher is, but also how a teacher connects classroom knowledge with the practical world, which will help them find their way. Teachers should adjust their style in the classroom and beyond, and influence the students from the proper perspective by cultivating trust and developing a deep rapport with the students.

Students are capable of achieving different types of intelligence. The role of a teacher in this endeavour is to nurture and bring out the best in them, such as their creativity. When a teacher is facilitating the individual students and makes them feel worthy of his or her own right, and in the unfolding, no matter in what condition a child is coming and responding, the teacher is fostering creativity (Roger, 2003). This will go a long way in bringing out the best in the students. Teachers need to read between the lines of the students' words, navigating the classroom dynamics through group activity and reading the students' nonverbal cues (Caldwell, 2025).

Adolescents devote more time and energy to worrying about whether they are safe and accepted than to caring about whether they are learning. This is why teacher-student relationships have such a powerful effect on student achievement and why community-centered classrooms are such an important contributor to students' academic growth and holistic development. The interpersonal intelligence of the students displays their affective needs (Doubet & Hocket, 2015). Therefore, if a teacher wants to create a successful and fruitful classroom, he or she needs to cultivate healthy teacher-student and student-teacher relationships. There is an old Chinese adage: 'Not hearing is not as good as hearing, hearing is not as good as seeing, seeing is not as good as knowing, knowing is not as good as acting; authentic learning continues until it is put to action. This is not a matter of convenience but is indispensable, as the present study has revealed its dominance among the students.

The high interpersonal intelligence score among the students implies that their desire for a good relationship is a process of their affective needs. Therefore, if a teacher ignores these affective needs of students, they will be less able to meet their cognitive needs. Students gain socio-emotional and intellectual growth when these needs are met with diligence and prudence.

5.2.6. Delimitation Of the Study

1. The present study is limited to only secondary tribal students studying in schools affiliated and recognized by the Nagaland Board of School Education. Headquarter is located in Kohima.
2. The researcher studied the eight intelligences, namely, Verbal-Linguistic, Logical-Mathematical, Musical, Bodily-Kinaesthetic, Visual-Spatial, Intra-Personal, Inter-Personal, and Naturalist, concerning Study habits and

Academic Achievement of Class X Tribal Students in Six Districts of Nagaland.

3. It is limited to the State of Nagaland only.
4. The study is based on a quantitative method.

5.2.7. Suggestions for Further Research

1. Further research could be extended to students' responsiveness in applying multiple intelligences in the teaching and learning process.
2. Research could be done between CBSE, SBSE/NBSE, and ICSC regarding the MI score and the success index.
3. A comparative study could be extended to residential schools and others.
4. Few intervention studies can be taken to improve the teachers' multiple intelligences.
5. The studies could be further extended to successful intelligence and multiple intelligences among Higher Secondary and Graduate Students.
6. Teachers' effectiveness in using multiple intelligences in the classroom could be studied along with psychological variables.

5.2.8. Conclusion

It is confirmed that mathematical/logical and verbal/linguistic intelligences are not at the top of the students' MI scores. They are, in a way, at least. This gives us tremendous insight into how students are gifted with the skills and intelligence they are endowed with. Therefore, this demands that the teaching community and parents alter how we see success and initiate career plans for our students.

The empirical world gives us enough proof and evidence that mathematical and verbal intelligences are not the sole point of intelligence required to build our career and live a meaningful life. We cannot deny that mathematics and linguistics have their role and share in society. We are arguing and affirming that they cannot be the sum total to determine students' capacity to learn and grow.

This further leads us to another level of reflection. Often, students are not interested in a particular subject, mathematics. They are not interested not because of the topic, but students fail to draw the connection between what they are studying.

Here, a teacher of the subject must try to draw the students' attention. For instance, *pi* is the study of a mathematical constant. It is a number that mathematicians can rely on and use to calculate, analyze, compare, and predict. To engage students in a study of *pi*, a teacher might begin by displaying the word constant and asking students to talk to one another briefly about what it means for something to stay constant and who or what the constants are in their lives. This analogy becomes clear for the students; they can draw a connection to what they will study and thus become interested in studying *pi* (Doubet & Houkett, 2015). This is the challenge for a teacher to be down-to-earth in concretely teaching an abstract subject to the students.

Achamma (2012) in her study on *Multiple Intelligence Approach to Curriculum Transaction and Achievement of Educational Objectives at Secondary School Level*, reveals that linguistic intelligence score is the dominant intelligence, followed by mathematical intelligence, and musical and Natural intelligence scores are the lowest scores. However, in this study, interpersonal intelligence scores the highest, followed by natural intelligences, and mathematical and linguistic intelligences are at the lowest. Therefore, intelligence cannot be measured and can only be reduced to a single factor determined by linguistic and mathematical factors alone. There is a scope of human potential beyond the confines of the IQ scores (Armstrong, 2017).

When students' learning experience takes a positive direction with the affirmation of their dominant intelligences, academic achievement will improve as self-wellbeing improves. The study habit improves with a high degree of self-direction and self-well-being. As the study result indicates, there is a reciprocal relationship between multiple intelligences and academic achievement.

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Appendix-- I

QUESTIONNAIRE FOR THE STUDY HABITS OF CLASS X NAGA STUDENTS OF NAGALAND

GENERAL INFORMATION

Instruction

The purpose of this questionnaire is to collect the data of the **Study Habits and Multiple Intelligence of Class X Students of Nagaland**. Therefore, you are requested to give your valuable opinion by ticking against the box where you consider the point nearest to your views. These statements are for research only, and strict confidentiality will be maintained for the same.

1. Name:	-
2. Gender:	Male/Female
3. Your background:	Urban/ Rural
4. Type of School:	Govt/Private
5. Tribe:	-
6. Father's Education:	Up to 10 th /12 th / graduate and above
7. Mother's Education:	Up to 10 th / 12 th / graduate and above
8. Father's Occupation:	Self-Employee/ Gov't Employee/ Unemployed
9. Mother's Occupation:	House wife/Self Employee/ Gov't employee/Unemployed
10. Birth Position:	First Born/Middle Born/Last Born

School Infrastructure

1. Playground:	Yes/No
2. Library:	Yes/No
3. Laboratory:	Yes/No
4. Computer Room:	Yes/No
5. School Hall:	Yes/No
6. Toilet:	Yes/No
7. Canteen:	Yes/No
8. Counselling Room:	Yes/No
9. School Building:	RCC/Others
10. Drinking Water Facility:	Yes/No
11. Stationery Stall:	Yes/No

Appendix-II

MULTIPLE INTELLIGENCE SCALE (MIS)

Please fill up in the blank shaded space by indicating your preference with any one of the following figures.

Not like me-1 Very little like me-2 A little like me-3 Like me-4

A Lot like me-5

SN	ITEM	MI	II	LI	INP	MI	PI	VI	NI
01	I like scientific and technical subjects.		*	*	*	*	*	*	*
02	I'm good at planning setting goals.	*	*	*		*	*	*	*
03	I make friends easily.	*		*	*	*	*	*	*
04	I am observant and see detailed things.	*	*	*	*	*	*		*
05	I enjoy cross word and word games.	*	*		*	*	*	*	*
06	I love environmental issues.	*	*	*	*	*	*	*	
07	I'm good in handicrafts solid things.	*	*	*	*	*		*	*
08	I have good sense of rhythm and music.	*	*	*	*		*	*	*
09	I'm good in Math, and calculation.		*	*	*	*	*	*	*
10	I'm sensitive to how others observe me.	*		*	*	*	*	*	*
11	I'm a good talker and enjoy speaking.	*	*		*	*	*	*	*
12	I remember verse/poetry/jingles easily	*	*	*	*		*	*	*
13	I enjoy working/learning alone.	*	*	*	*	*	*	*	*
14	I love farming, biology or astronomy.	*	*	*	*	*	*	*	
15	I love music and recognize tunes easily	*	*	*	*		*	*	
16	I am good in sports and games.	*	*	*	*	*		*	*
17	I learn from charts, diagrams, and images.	*	*	*	*	*	*		*
18	I love animal and keep pets in my house.	*	*	*	*	*	*	*	
19	I'm good at writing stories, and letters.	*	*		*	*	*	*	*
20	I keep a personal diary or journal.	*	*	*		*	*	*	*

21	I love puzzles and mental problems.		*	*	*	*	*	*	*
22	I am good at art, modeling or sculpture.	*	*	*	*	*	*		*
23	I like to work in groups and with friends.	*		*	*	*	*	*	*
24	I like maps and calculate distance well.	*	*	*	*	*	*		*
25	I'm good in singing and playing guitar.	*	*	*	*		*	*	*
26	I enjoy physical exercises.	*	*	*	*	*		*	*
27	I learn from my mistakes and experiences.	*	*	*		*	*	*	*
28	I love debating and explaining things.		*	*	*	*	*	*	*
29	I grow flowers, plants and trees.	*	*	*	*	*	*	*	
30	I love to learn from books, and internet.	*	*		*	*	*	*	*
31	I like to belong to clubs and associations.	*		*	*	*	*	*	*
32	I learn with hands-on works.	*	*	*	*	*		*	*
	TOTAL								

Appendix-- III

STUDY HABITS QUESTIONNAIRE

Strongly Disagree (SD), Disagree (DA), Undecided (UD), Agree (A)

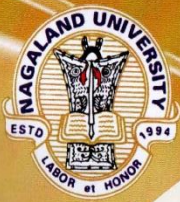
Strongly Agree (SA)

	PARTICULAR	SD	DA	UD	A	SA
1	Class-hour teaching is enough for me to study.	1	2	3	4	5
2.	I don't read extra materials for exams.	5	4	3	2	1
3	I study better when I discuss with my friends.	1	2	3	4	5
4	I don't do my assignments at the last hour.	5	4	3	2	1
5	When I study hard and get good grades, I feel satisfied.	1	2	3	4	5
6	My teachers help me with my high academic record.	1	2	3	4	5
7	It is my ambition that motivates me to study hard.	1	2	3	4	5
8	My interest in reading helps me to study more.	1	2	3	4	5
9	I don't give up unless I master my lesson.	5	4	3	2	1
10	I always give myself sufficient time to study.	1	2	3	4	5
11	I don't study every day in the same place.	5	4	3	2	1
12	During my free time, I help with the house activities.	1	2	3	4	5
13	If I need more time to concentrate, I do other work.	1	2	3	4	5
14	I mentally prepare my lesson before I study.	1	2	3	4	5
15	I mark questions that I need help understanding.	1	2	3	4	5
16	I don't underline complex topics that I study.	5	4	3	2	1
17	I cannot study under pressure from my parents.	5	4	3	2	1
18	When studying, I also write it in the rough book.	1	2	3	4	5
19	After every topic of studying, I revise.	1	2	3	4	5
20	My study hour is memorizing questions and answers.	1	2	3	4	5
21	For my exam, I selectively study specific answers.	1	2	3	4	5
22	I discuss with my parents specific topics for the exam.	1	2	3	4	5
23	I don't write anything to remember better.	5	4	3	2	1
24	During my free time, I don't do mind games.	1	2	3	4	5
25	I like to read comics, love stories and newspaper.					

Appendix- IV

Paper Presentations





NAGALAND UNIVERSITY

(A Central University Established by an Act of Parliament, 35/1989)

Department of Teacher Education
School of Humanities & Education
Kohima Campus, Meriema - 797 004



Certificate of Participation

This is to certify that Mr./Mrs./Ms./Dr./Prof. Vemado Kezo
Department of Teacher Education, NU: Kohima
.....has participated/Pre^sented a paper
entitled Skill Education and NEP 2020: A paradigm
shift for the Twenty-First Century Education
in the **National Seminar on Social Transformation in India 2.0 and NEP-2020** held from
21st to 22nd April, 2022 organised by Department of Teacher Education, School of Humanities &
Education, Nagaland University, Kohima Campus, Meriema, Nagaland-797 004.


Prof. A.K. Mishra
Pro-Vice Chancellor
Kohima Campus


Prof. Bino Zetsuvi
Dean
School of Humanities and Education


Prof. P.K. Pattnaik
Head
Dept. of Teacher Education


Dr. Rashmi
Convener



**ICSSR SPONSORED TWO DAYS NATIONAL SEMINAR
on
75 YEARS OF INDIA'S ACHIEVEMENTS: IDEAS AND RESOLVE
Organised by
INTERNAL QUALITY ASSURANCE CELL
ST. JOSEPH'S COLLEGE (AUTONOMOUS)
JAKHAMA, NAGALAND**

Certificate of Appreciation

Awarded to

Fr. Vemedo Kezo

for presenting a paper entitled
"Assessment of Multiple Intelligence for Innovative Teaching
Learning and Sustainable Development"
at the ICSSR, New Delhi, sponsored National Seminar on the
theme "75 Years of India's Achievements: Ideas and Resolve",
dated 14th & 15th April 2023,
organised by Internal Quality Assurance Cell (IQAC),
St. Joseph's college (Autonomous), Jakhama, Nagaland.

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