

**ENRICHMENT TRIAD AND SCHOOL MENTORSHIP AS DETERMINANTS  
OF ACADEMIC ACHIEVEMENT AND ADJUSTMENT AMONG HIGH  
ABILITY SENIOR SECONDARY SCHOOL STUDENTS IN IMO STATE,  
NIGERIA**

**BY**

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## **CERTIFICATION**

I confirm that the research presented in this thesis was conducted by Mrs. **Glory Ifeyinwa IBEABUCHI** in the Department of Special Education at the University of Ibadan.

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## **DEDICATION**

I dedicate this thesis to God Almighty, acknowledging His unwavering faithfulness and boundless mercy that have accompanied me throughout my journey in pursuing this program. And in loving memory of my beloved father whose wish was that I attain this great height in my career.

To my Husband, Pharm Okey Ibeabuchi and my lovely daughters Chidinma, Chibugo and Zizi thank you for your great co-operation, you are indeed my world.

This work is also dedicated to scholars, teachers and all stakeholders who have passion to make significant impact in the academic achievement and adjustment of students with high ability.

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## ABSTRACT

The need for academic achievement and coping with the demands of schooling are fundamental to academic success. Typically, High Ability Secondary School Students (HASSS) have strong potential that enable them succeed academically and cope smoothly. However, reports have shown that the Academic Achievement (AA) and Academic Adjustment (AAd) of HASSS, particularly in Imo State, Nigeria are getting poorer annually. Although previous studies have examined teaching methods such as inquiry-based and collaborative learning to improve the AA and AAd of HASSS, other approaches including enrichment triad and school mentorship have been neglected. This study, therefore, examined how enrichment triad (Tiered Instruction—TI, Independent Study—IS) and school mentorship (One on One Mentorship—OM, Group Mentorship—GM and Bibliotherapy Mentorship—BM) are implicated in the AA and AAd among HASSS in Imo State, Nigeria.

The study was anchored to the Wigfield and Eccles Expectancy-value Theory, while the sequential mixed methods design was adopted. The multi-stage sampling procedure was used. Twelve out of 27 Local Government Areas (LGAs) in Imo State were randomly selected. Purposive sampling was used to select one public senior secondary school per LGA. The Slosson Intelligence and High Ability English Language and Mathematics Achievement Screening (HAELAS) Tests with index score of > 60% were used to select 265 HASSS. The instruments used were English Language and Mathematics Achievement Test ( $r = 0.84$ ); Tiered Instruction ( $r = 0.86$ ) Independent Study ( $r = 0.87$ ), One on One Mentorship ( $r = 0.90$ ), Group Mentorship ( $r = 0.88$ ), Bibliotherapy Mentorship ( $r = 0.88$ ) and Academic Adjustment ( $r = 0.87$ ) Scales. In-depth interviews were conducted with an experienced teacher of HASSS in each school. The quantitative data were analysed using Pearson product moment correlation and Multiple regressions at 0.05 level of significance, while the qualitative data were content-analysed.

The participants' age was  $16.26 \pm 1.18$  years and 51.0% were female. The TI ( $\bar{x} = 2.81$ ), IS ( $\bar{x} = 2.98$ ), OM ( $\bar{x} = 3.03$ ), GM ( $\bar{x} = 2.98$ ) and BM ( $\bar{x} = 3.02$ ) were high against the threshold of 2.50. The TI ( $r=0.29$ ), IS ( $r=0.25$ ), OM ( $r=0.21$ ), BM ( $r=0.21$ ) and GM ( $r=0.19$ ) positively correlated with academic achievement. The OM ( $r=0.13$ ), GM ( $r=0.39$ ) and BM ( $r=0.49$ ) positively correlated with academic adjustment, but TI and IS did not. The joint contributions of the independent variables to academic achievement ( $F_{(5, 259)} = 8.64$ ; Adj.  $R^2 = 0.126$ ) were significant, accounting for 12.6% of the variance. The joint contributions of the independent variables to academic adjustment ( $F_{(5, 259)} = 17.25$ ; Adj.  $R^2 = 0.235$ ) were significant, accounting for 23.5% of the variance. The TI ( $\beta = 0.23$ ) made significant relative contribution to academic achievement, while BM ( $\beta = 0.43$ ) made significant relative contribution to academic adjustment of HASSS. Teachers' lack of professional training and non-availability of appropriate teaching materials and technologies were barriers to improving academic achievement and adjustment of HASSS.

Tiered instruction influenced academic achievement, while bibliotherapy mentorship influenced academic adjustment of high ability senior secondary school in Imo State, Nigeria. Teachers should take into cognisance both approaches to improve academic achievement and adjustment.

**Keywords:** High ability secondary students, School mentorship, Enrichment triad programme, Academic achievement and adjustment

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## LIST OF ABBREVIATIONS

<b>ACRONYM</b>	<b>FULL WORD</b>
AA	Academic Achievement
AAD	Academic Adjustment
BM	Bibliotherapy Mentorship
ELMA	English Language and Mathematics Achievement Test
ET	Enrichment Triad
HAELAS	High-Ability English Language and Mathematics Achievement Screening Tests
HASs	High Ability Students
HASSS	High Ability Secondary School Students
GM	Group Mentorship
OM	One On One Mentorship
IS	Independent Study
SM	School Mentorship
TI	Tiered Instruction
IIGT	In-depth Interview Guide for Teachers

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

Academic achievement is an important learning outcome that shows how well pupils have mastered the academic assignments that their teachers have given them. Students are required to meet desirable academic standards based on the instructional objectives teachers set for certain lessons. This highlights how crucial it is for students to develop the appropriate skills, expertise, and values in their educational pursuits because this has a significant impact on overall school effectiveness. Academic success is an educational outcome that measures how well students accomplish their learning objectives (Afolayan, Donald, Onasoga, Adeyanju, and Agama, 2013).

The success of students in their academic endeavours has a tremendous impact on their lives and the life of their families, community and nation and is determined by a number of factors. These factors include the ability of students to cope with change or adjust, as well as personality attributes including self-control, efficacy, levels of anxiety, study routines, and the level of test preparation. Environmental variables also have an impact. Academic and non-academic factors that affect academic performance include prior academic achievements like end-of-term or end-of-session grades, scores from a variety of aptitude tests, as well as specific physical characteristics like gender, age, marital status, race or ethnicity, residential background, and prior work experience (Parveen, 2008). In other words, there are relationships between students' learning in terms of affective and psychomotor elements as well as their performance on cognitive tasks. The academic performance of students is determined by their grades in each topic, and students themselves have attitudes towards learning and work hard to succeed in school (Bulacan State University, 2011).

Teachers, professionals, and families are concerned when highly gifted students perform poorly in academics. These students could grow alienated and disengaged if their issues are not handled, which could result in them leaving the

educational system and constituting upset in the community. According to Moja (2000), despite efforts to enhance the curriculum and teaching standards, low academic achievement has been on the increase in Nigeria. According to Ogunfowora, Olusoga, Olanrewaju, and Akenzua (2005) and Etsey (2005), this issue has also caused worry in the West African sub-region. Despite the value placed on education, secondary school students appear to consistently struggle academically and underachieve (Aremu, 2000).

Therefore, the problem of poor academic performance has caught the interest of educational psychologists. However, researchers have raised more questions than answers in their attempt to understand the determinants influencing academic accomplishment (Aremu and Sokan, 2003; Aremu and Oluwole, 2001; Aremu, 2000). According to Ogunsaju (2004), the academic standards in Nigerian institutions of learning have fallen well short of what society expects. High-ability students (HASs) are less studied and characterised than typical students, although it is generally agreed that HASs require early identification and intervention (Pfeiffer and Petscher, 2008; Rotigel, 2003).

In Nigeria, secondary school pupils have a high rate of poor academic performance, which causes a lot of dropouts, according to Adesehinwa and Aremu (2010) and Akomolafe (2010). The persistently low academic achievement in the final Senior School Certificate Examination (SSCE) has alarmed stakeholders despite the government and private resources invested in secondary education. Concerned people have expressed anxiety over the decrease in Nigeria's educational standards. Academic achievement heavily depends on the interaction between teachers and students. Although academic achievement may possess both positive and bad effects on students' academic adjustment, it has been steadily dropping for students in secondary schools nationwide (Chukwuemeka, Ananti, and Onyekwelu, 2020).

High-ability students (HASs) are individuals that continuously receive excellent grades and test scores, according to researchers like Bainbridge (2020). These students must complete their assignments successfully, displaying good planning and time-management abilities. They are also renowned for submitting orderly and timely work. HASs often behave well, adjust well to the educational setting, and enthusiastically participate in class activities along with their academic performance. HASs have a sense of autonomy in choosing their own learning goals

and confidence in their capacity to attain those goals, which better prepares them for lifelong learning, according to Candeias, Rebelo, Olivera, and Mendes (2012). High ability depends on motivation, effort, and learning chances rather than being a set quality. It grows gradually in a setting that offers the right amount of support and difficulties (Foster, 2019).

Every community and school expects its highly capable students to significantly contribute to society. This is why many nations, like Nigeria, deliberately identify and support their high-ability students in an effort to cultivate their skills and personality qualities for the progress of the country's economy and technology. In order to promote learning opportunities and the development of high-ability student's talents and natural abilities for the sake of national development, the Nigerian government provides education for all students.

The HASs are students who possess a minimum of Intelligence Quotient (IQ) of one hundred and twenty (120) or above average. In most cases, they demonstrate high potential in virtually all school subjects. However, some HASs fall below expectations in their academic achievement, thus failing to fulfill their potential. Students with high ability are found in every community and classrooms in Nigeria, just as it is obtainable in other communities of the world whether developed, developing or underdeveloped. However, in a developing country like Nigeria, these students encounter a lot of challenges in their academic achievement due to poor identification processes, lack of early interventions and poor management processes compared with their counterparts in the developed countries. Indeed, poor academic achievement of these group of students place them, at disadvantageous position among their friends, families and societies who are reaping from achievements being recorded by them in their various endeavours in the developed countries. Moreover, it is worrisome that there are no specific classes for students with high ability in Nigeria. They are lumped up in the same classroom and taught with the same strategies, under the same regular classroom teachers, classroom condition and obsolete facilities without even making an allowance for their individual differences.

The HASs are those who one would expect to ideally manifest or display prospect and potential aimed at accomplishing a specific assignment at an exceptional level or mode of achievement in at least one or more sphere of life when likened to other students of their ages or experiences, exposures or backgrounds. They may

likely show extraordinary gifts, talents, drives, or interests in broader capacity of humans' accomplishments. The HASs may as well be expected to be students who are performing much better academically than their peers. High ability in students may be the product of more support receiving from teachers or being teachers' favourite and peer delight. These students may encounter unique challenges such as, frequent bully from envious peers. As a result, it is reasonable to assume that students with high ability are a group of students that possess a solid memory, extraordinary curiosity, learn quickly and easily, have unanticipated comprehensiveness of understanding in a few different fields of learning, elevated cognitive abilities skill, complexities in mental processes, perfectionist tendencies traits, tenacity, self-initiative, intense emotions, increased sensitivity, a keen understanding of right and wrong, intensified awareness of others' feelings, advanced vocabulary, and use of complex thinking skills.

According to Nwazuoke, Olatoye, and Oyundoyin (2002), a student's surroundings can either encourage or stifle innovation. Understanding that there are different types of intelligence in both academic and non-academic contexts is crucial. According to the Indiana Association for the Gifted (2019), the phrase "high ability" comprises a variety of skills that are not simply reliant on a single measure or index. There are various ways in which these powers can appear. High ability may be shown or have the potential to be shown in areas like intellect, creativity, or particular subjects, according to the Newfoundland and Labrador Department of Education (2013). High-ability students frequently achieve success in a variety of subjects and may exhibit great passion and focus in their individual talents or interests.

According to Clark (2002), students who perform in the top two percent on standardised examinations such as the Binet test are considered to have high aptitude. Swiatek (2007) argues that because identifying giftedness often necessitates a variety of assessments that are not frequently given in regular courses, science students are frequently referred to as HASs. This argument supports the assertion made by Iji and Herbor-Peters (2005) that teaching strategies in Nigerian mathematics classes appear to favour students with high ability primarily. According to several characteristics of high-ability learners, they are quick thinkers, flexible in how they employ techniques, have stronger memories, have more knowledge, and prefer complexity when compared to students with ordinary ability (Scager, Akkerman, Pilot, and Wubbels,



2014). According to Abakpa and Iji (2010), traditional teaching approaches cause the achievement disparity among high-ability and low-ability students to expand since so many high-ability pupils find it difficult to succeed in school.

According to Indiana Association for the Gifted (2019), a student with high ability may perform very well in some academic subjects while performing averagely or having difficulty in others. It is necessary to acknowledge high ability across a wide range of students with varying capacities in order to recognise the numerous sorts of high ability above precocious students. This applies to talented underachievers who have developed behavioural patterns as a result of a lack of interest and challenge as well as "twice-exceptional" children who are high ability and also possess additional traits, such as learning disabilities. As a result, even while a student has great talent, they might not always be able to demonstrate it (Abakpa and Iji, 2010). Because skills like thinking for themselves observing problem-solving, and remembering significantly contribute to exceptional academic achievement, it may be said that a student's aptitude is a significant determinant in achieving academic success.

High-ability secondary school students who battle with poor academic performance frequently experience challenges transitioning to the school environment. In this sense, "adjustment" refers to a student's ability to manage internal conflicts, needs, tensions, and frustrations while also managing to coordinate their needs with those imposed by the educational environment. It's common to use the terms adjustment, accommodation, and adaptation interchangeably. According to Searle and Ward (2012), adjustment in psychology refers to the behavioural process by which both humans and animals maintain balance between their varied requirements and the challenges posed by their circumstances. It emphasises the person's struggle to blend in or endure in their physical and social environment. The person makes an effort to maintain an advantageous connection with the learning environment throughout this process. All people, but especially students, need to focus on the issue of adjustment, and they should be encouraged to do so while also making academic development.

A student who is well-adjusted effectively completes secondary school. The rising requirements of individuals must be met in today's dynamic society. Competition permeates all aspects of society, which poses a serious threat to how

adolescents and secondary school students adjust. A rising number of books, articles, periodicals, and scientific publications are addressing the issue of adjustment because it is so important in today's society (Winga, Agak and Ayere, 2011). The behavioural method for maintaining equilibrium between multiple wants and environmental constraints is known psychologically as adjustment. Four steps make up the adjustment process: a strong and persistent stimulus in the form of a need or motive, the sabotaging or non-fulfillment of this need, a variety of activities and exploratory behaviour coupled with problem-solving, and a response that eliminates or reduces the initiating stimulus, concluding the adjustment (Kumaraswamy, 2013).

In order to promote healthy personality development through socialisation, a well-adjusted student is unaffected by interactions like conflicts and emotions (Sangeeta and Chirag, 2012). Students are equally impacted by social and emotional changes as they are by academic pressures, which call for coping mechanisms and adaptations. According to Salami (2011), academic adjustment refers to how successfully students manage the demands of their education, including their motivation to meet academic standards, their academic effort, and their contentment with their learning environment. Achievements and their effects on personal development are indicators of academic adjustment.

The degree of academic adjustment a student experiences depends on his or her capacity for achieving grades and other educational goals and objectives. Approximately one in four secondary school learners leave school before completing their secondary education, despite the value of education for higher incomes, meaningful jobs, and a better quality of life (Ganai and Muhammad, 2013). Ineffective teaching methods may be a factor in pupils' general poor academic performance and behavioural issues. Because of this, it is essential to give High Ability Students (HASs) academic assignments and teaching methods that are in line with their objectives in order to improve their academic performance and adaptability. Since teaching tactics like the Enrichment Triad (ET) and School-wide ET Model (SEM) play a key role, experts in the field of education for HASs have devised several strategies to manage this group of students inside the school structure and improve their achievement and adjustment.

Renzulli (1977) described the ET model, which acknowledges both positive and negative aspects of gifted classrooms. Students indicated they enjoyed being in

gifted classrooms and valued the flexibility they had there. However, the learning materials and teaching methods included in the educational programmes for these ET programmes were varied (Borland, 2012). With flexibility and assistance, students can operate as mini-professional, creative producers under Type III of Renzulli's model. Type I of Renzulli's model encourages students to broaden their horizons. Type II of Renzulli's model enables students to develop their critical, creative, and problem-solving skills. The comprehensive School-wide ET paradigm (SEM), which incorporates strengths-based teaching strategies and opportunities for all students throughout the entire school, is built on the ET paradigm (Renzulli and Reis, 1997, 2014).

Early versions of the ET and SEM were more concerned with student interests and aptitudes than with specific subject matter (Renzulli, 1977; Renzulli and Reis, 2014). Nevertheless, over the years, the SEM and ET have evolved and modified for domain-specific contexts such as mathematics, science, social studies, reading, art, and the integration of technology (Gavin and Renzulli, 2018; Heilbronner and Renzulli, 2015; Renzulli, 2016). To produce memorable and lasting learning experiences, these models have also been coupled with other evidence-based educational practises.

Tiered instruction and individual study enrichment programmes are the two categories of ET programmes that this study focuses on. Based on the students' prior knowledge and skills, differentiated instruction is provided. It enables students to pick up necessary abilities at a rate of learning that corresponds to their instructional level. On the contrary hand, independent study entails each student working on their own educational tasks with little oversight (Moore, 2009). In most cases, students and teachers choose a research topic together, and the student receives direction from the teacher for a set period of time and number of credits (Winebrenner and Brulles, 2012). Both kinds of ET programmes support students in finding their purpose in life, improving their creative abilities, developing moral character, and fostering an engaged learning environment.

To balance the development of professional skills with the development of positive character qualities that support moral standards, influence, and responsibility is one of the objectives of ET programmes (Sabo, 2004-2020). In comparison to traditional classrooms, these programmes provide HASs the chance to study subjects

in greater depth and let them continue their education alongside their classmates. Furthermore, by giving HASs suitable opportunities and academic skills that ultimately result in outstanding academic accomplishment, ET programmes can assist HASs unlock their creativity in cognitive processes.

Academic ET programmes are typically offered after school, although they may also be provided before or after school, on holidays and weekends, or even during the summer. These programmes include academic courses in the fundamental subjects as well as extracurricular pursuits like the visual and performing arts, music, food preparation, gardening, health and nutrition, cultural events, technology, drill team, and outdoor games. Numerous programmes also provide tuition and support with homework. With a focus on making learning pleasurable, novel and cutting-edge tactics are used to engage pupils in the after-school environment. With nearly 10.2 million students (representing roughly 23 percent of American families) registered in after-school programmes in 2014, the number of students attending such programmes in the United States has been gradually rising. The majority of these programmes are run by student care facilities, civic organisations, and religious organisations, with public schools hosting 43% of them and private schools hosting 11% of them (Afterschool Alliance, 2014a).

According to accessible information (Missouri Department of Elementary and Secondary Education, 2015), after-school programmes include a variety of high-quality enrichment activities aimed at promoting students' learning and development. During non-school hours, these activities strengthen and supplement the pupils' regular academic programme. The demands of students with outstanding abilities and their content interests must be taken into account if these programmes are to be effective (Alzoubi, 2014). Additionally, it's crucial to include the right approaches and strategies (Clarck and Zimmerman, 2002), as these programmes help pupils become more motivated and hone their talents. The growth of self-efficacy and self-regulation is also positively impacted (Heinz and Heller, 2002; Pereira, Peters, and Gentry, 2010).

Tracey and Ge (2004) claim that enrichment activities are made to offer students the background knowledge they need for a task and get them ready for new challenges. To satisfy the requirements of their pupils, teachers might use a variety of instructional tools and strategies, such as collaborative teaching and pedagogical

collaboration. One of the many advantages of enrichment activities is highlighted by Sabo (2020), who focuses on how they have long-lasting effects on people's drive, character, attitude, and feeling of purpose. Activities for enrichment make learning more enjoyable and meaningful. While all students gain from these programmes, it is crucial to recognise that high-ability students in particular have the chance to go deeply into topics, explore their imaginations, and use their creative skills.

High-ability students can receive a balanced and culturally rich education by participating in enrichment activities that improve their learning opportunities. The School Run (2020) claims that these activities give children the opportunity to engage in novel and varied activities that may go beyond the curriculum but that nonetheless help students improve their character, perseverance, and motivation, inspiring them to achieve more ambitious goals. In addition to teaching academic abilities, enrichment programmes also promote social responsibility, teamwork, and a respect for culture and local issues. In addition, these activities are meant to expose students to new things, help them learn new skills, provide them options for following interests or attempting something new, and allow them to compete or participate in tournaments (Nord Anglia Education, 2020). They also encourage students to make substantial contributions to their communities. Academic enrichment programmes raise student academic achievement levels, according to a number of studies (Afterschool Alliance, 2015c; 2013; Lauver, 2012).

School Mentorship (SM), in addition to enrichment activities, is a critical component of closing achievement gaps among high-ability students in secondary schools in Nigeria. The word "mentorship" comes from Greek mythology, in which Athena assumed the identity of Mentor to look after Telemachus, the son of Odysseus, while his father was away at Troy (Akinla, Hagan, and Atiomo, 2018). By increasing students' sense of belonging and boosting their satisfaction, dedication, and retention rates, mentoring has been proposed as an efficient way to facilitate the transition of learners to tertiary education (Carragher and McGaughey, 2016). In a formal partnership known as mentoring, an instructor with more expertise offers advice and assistance to a protege or student. It is a strategy used by several educational systems to aid students in adjusting to new learning environments and promote academic accomplishment (Andrews and Clark, 2011). According to Jucovy (2000), mentoring programmes improve students' lives, satisfy their desire for good

adult interaction, and offer specialised assistance and advocacy. Notably, beneficial mentoring relationships have been shown to be successful in assisting high-ability adolescents to overcome risk factors related to academic failure, rate of dropping out, and engagement in delinquent behaviours including gang crime and drug misuse.

According to Buell (2004), mentoring is an effective way to improve young students' comprehension and academic performance. It is also a strong instrument for personal growth and empowerment. It symbolises a collaboration between two people, a mentor and a mentee, who cooperate in a respectful and trusting cooperation. In addition, Okurame (2008) contends that mentorship is not a novel idea in academic circles and can be used to uphold academic standards and success. Mentorship, according to Ojokuku and Sajuyigbe (2015), is a useful technique for raising academic standards and accomplishments. Jegede and Olu-Ajayi (2017) claim that SM introduces students to mentors in secondary schools who are often teachers and engage them in a supportive relationship that includes academic tutoring and enrichment programmes. The curriculum can be better adapted to the varied needs and interests of students who need extra support thanks to SM. It specifically helps underachievers who can feel inferior to their peers because of their lower skill levels, ultimately leading to an improvement in academic performance.

The SM process consists of three separate steps when school employees refer students for mentoring. These include one-hour weekly meetings between an adult mentor and a student throughout the academic year, meetings that take place on school property during regular school hours, and mentoring sessions that involve both academic and social activities for the mentees (Jucovy, 2000). The mentor-mentee relationship is a two-way link between a more seasoned mentor and a less seasoned mentee that provides a variety of professional and emotional supports, such as direction, counselling, training, and monitoring (Sweeney, 2004).

In this study, an investigation of three SM types is conducted: Bibliotherapy Mentorship (BM), Group Mentorship (GM), and One-on-One Mentorship (OM). A mentorship relationship centred on guidance and assistance within the mentor's field of competence is the foundation of OM. To help the mentee advance towards their goals, the mentor can directly impart knowledge and offer developmental guidance (Matthew, 2021). The GM matches a single mentor with a group of mentees, providing advantages including teamwork, support, and inclusion, which are

especially helpful for onboarding and inductions (Matthew, 2021). The BM initiative uses books to encourage mental health and provide people the tools they need to deal with their own problems. With the teacher having an interactive and personal role in encouraging students to ponder on and authenticate their experiences, pupils in this curriculum obtain the skills and information required for discipline and self-regulated learning (McCombs, 2001). Bibliotherapy, which can be used by instructors in a variety of ways across the curriculum, primarily in classroom management, is the process of supporting one's own development and growth via books.

Mohammed, Rufai, and Yahya (2017) note that in a school setting, the teacher guides and instruct students. The generic role of a mentor is similar to a "father" figure that guides and teaches a younger person. In addition, mentors, along with parents or guardians, provide young people with support, advice, friendship, encouragement, and a role model. To improve the academic performance of high-ability pupils, academic leaders must personally model collegiality and support this procedure. According to Okurame (2012a), mentors are dependable guides and counsellors who encourage the sharing of skills and provide opportunities for their mentees to gain information and use it successfully.

As confidants, mentors provide friendship to mentees in ways that increase their sense of self-worth and confidence (Okurame, 2008; Ramaswani and Dreher, 2007), which are essential components of mental capacity, as well as their understanding of complicated, autonomous activities (Okurame and Fabunmi, 2014). As a result, students who receive successful mentoring tend to outperform their peers academically and display positive traits including enhanced self-concept, self-esteem, and self-efficacy. Teachers' mentoring initiatives may also have an impact on students' poor academic performance and dropout rates. Students that receive high-ability mentoring frequently behave more positively, respond more quickly, and maintain higher academic self-discipline (Lerner, 2007). This study, which is being conducted among High-Ability Secondary School Students (HASSS) in Owerri, Imo State, Nigeria, aims to examine the effects of Enrichment Traid (ET) and School Mentorship (SM) as drivers of academic achievement and adjustment.

## **1.2 Statement of the Problem**

A critical issue that becomes a focus in the recent development in the education of students with high ability is the issue of low academic achievement which has given lots of concerns to teachers, school administrators, parents and other professionals in the education of high ability students. Poor academic achievement among HASs may be as a result of lack of early identification and appropriate intervention. For this reason, they face a lot of challenges that threaten their school life which could lead to poor adjustment to school. In Nigeria, many secondary schools failed and are still failing to pay adequate attention to HASs due to the fact that there is no provision for them in Nigerian secondary schools and in the national curriculum. As a result, academic achievement of HASs in Nigeria is facing varieties of complications. These complications include poor funding which resulted to poor school infrastructure and set-up, insufficient classrooms, teaching material and aids, scarcity and paucity of qualitative and competent teaching staff, poor school/learning environment and lack of ET and SM programmes.

Due to poor identification and lack of early intervention processes the HASs do not get the needed attention from their teachers as there is no much relationship between them, in addition to lack of diagnostic instruments which ought to show the distinction between the HASs and the regular students. Indeed, the teachers sometimes ignore this group of students, because these students are perceived as threats to their work, as they seem sometimes to know much than the class teachers. These students due to their failure to get teachers' attention turn to nuisance in the school and classroom setting. And up till this present moment there are no provisions and programmes for secondary schools that support the academic achievement of HASs with exception of Sulejah Academy. This group of students are often ignored or even snubbed and they may not be selected for high ability programmes such as ET and SM.

Previous research efforts have focused on bridging and linking the gaps between low, medium and HASs' academic achievement, teachers' competence, nomination either by teachers or parents, characteristics, and programmes for HASs. These studies reported that teaching methods such as inquiry-based and collaborative learning have been employed to improve the AA and AAd of HASSS, while neglecting other approaches such as ET and SM. Existing literature on students with



high ability showed that, there is a lack of ET programmes for HASs and this unwholesome act still persists in Nigerian secondary schools. Moreover, the academic achievement of students with high ability are being threatened due to lack of SM and this is actually causing lot of setbacks to the academic achievement of students with high ability in Nigerian secondary schools. Really, in Nigerian secondary school importance of the ET programmes and SM has not been adequately stressed with respect to the HASs' academic achievement. Consequently, this group of students is put at disadvantaged positions among their equals in the world over, and has negative effects on academic achievement of students with high ability in Nigeria.

Similar to how many students deviate from their original enrollment goals, many drop out of secondary school early to go into trades or take on different types of apprenticeships. The attention that this issue has received from those who are involved in education has led many researchers to look for solutions. Others speculate that this occurrence can be the result of students finding it difficult to adjust to academic demands in an unfavourable school environment. Some ascribe this phenomenon to difficulties with social, emotional, and academic transition. Therefore, the purpose of this study is to ascertain how Enrichment Triad (ET) and School Mentorship (SM) affect the academic achievement and adjustment of High-Ability Secondary School Students (HASSS) in Imo State, Nigeria.

### **1.3 Objectives of the Study**

The objectives of the study are to investigate:

1. the ET and SM programmes as determinant of academic achievement and adjustment among HASSS in Imo State, Nigeria.
2. the levels of ET (tiered instruction and independent study) and SM (OM, GM and BM) programmes among HASSS in Imo State.
3. the relationship among independent variables (ET—tiered instruction and independent study; SM—OM, GM and BM) programmes and dependent variables (academic achievement among HASSS in Imo State).
4. the relationship among independent variables (ET—tiered instruction and independent study; SM—OM, GM and BM) programmes and dependent variables (academic adjustment among HASSS in Imo State).

5. the joint contribution of independent variables (TI, IS, OM, GM, and BM) to the dependent variable (academic adjustment and adjustment among HASSS in Imo State).
6. the relative contribution of independent variables (TI, IS, OM, GM, and BM) to the dependent variable (academic achievement and adjustment among HASSS in Imo State).

#### **1.4 Research Questions**

Answers were supplied to these questions:

1. What is the level of:
  - a. TI by HASSS?
  - b. IS by HASSS?
  - c. OM by HASSS?
  - d. GM by HASSS?
  - e. BM by HASSS in Imo State?
- 2a: What is the relationship between ET programmes (TI and IS) and academic achievement among HASSS in Imo State?
- 2b: What is the relationship between ET programmes (TI and IS) and academic adjustment among HASSS in Imo State?
- 3a: What is the relationship between SM programmes (OM, GM and BM) and academic achievement among HASSS in Imo State?
- 3b: What is the relationship between SM programmes (OM, GM and BM) and academic adjustment among HASSS in Imo State?
- 4a: What is the contribution (joint) of the IVs (TI, IS, OM, GM, and BM) to academic achievement of HASSS in Imo State?
- 4b: What is the contribution (joint) of the IVs (TI, IS, OM, GM, and BM) to academic adjustment of HASSS in Imo State?
- 5a: What is the contribution (relative) of the IVs (TI, IS, OM, GM, and BM) to academic achievement of HASSS in Imo State?
- 5b: What is the contribution (relative) of the IVs (TI, IS, OM, GM, and BM) to academic adjustment of HASSS in Imo State?

## **1.5 Significance of the Study**

The High-Ability Secondary School Students (HASSS) in particular stand to gain significantly from this study. The research's conclusions and recommendations provide helpful information for HASSS in Imo State, Nigeria, and possibly everywhere else. These realizations can enable them to take advantage of School Mentorship (SM) efforts and Enrichment Triad (ET) programmes in their secondary school settings. Additionally, this study will be extremely beneficial to the educators of HASSS. They play a crucial role as important stakeholders in the education system and significant implementers of educational policies. The results of the study can aid teachers in comprehending the value of acting professionally, firmly, and with unwavering positive support when instructing and interacting with HASSS. This strategy makes sure that these children, who display a variety of learning demands in the classroom, receive suitable ET programmes and SM without prejudice. The findings of this study will also be helpful to school officials. They will have a better knowledge of how ET and SM affect high-ability students' academic performance. The study's conclusions can be a useful starting point for subsequent studies in this field by providing an empirical foundation for further investigation of ET and SM as factors influencing academic success among HASSS. This study contains useful information for parents as well. Parents will be better able to support their children's academic growth by understanding the association between ET, SM, and academic accomplishment among HASSS.

The study's conclusions can help parents make wise time and money investments, as well as help them rectify any discrepancies they may have noticed in their children's early academic performance. Additionally, this study can be very helpful to school guidance counsellors, who play a crucial part in the educational system. They frequently act as mentors for students, providing advice and support in dealing with issues like worry and stress brought on by low academic performance. The study's conclusions can assist counsellors in urging students to participate in mentorship relationships and enrichment activities. This study will be praised by the government, which is a significant player in the field of education. The information it offers can be used to help create national ET programmes that will be implemented in secondary schools all around Nigeria. Additionally, it can result in the mandate of SM programmes in all secondary schools in Nigeria with oversight and evaluation

systems in place. The findings may point to the necessity of hiring more skilled special educators and itinerant staff to solve the issues caused by the dearth of ET and SM in Nigerian secondary schools, thereby enhancing the academic performance of high-ability students. The results of this study's publishing may also open the eyes of stakeholders and experts who deal with HASSS. It will highlight how ET and SM help high-ability pupils achieve academically, motivating them to take advantage of these possibilities for academic excellence. Finally, this study might be regarded as a useful resource for future scholars. With a focus on maximising ET programmes and SM for the academic achievement of high-ability students, the results and suggestions may serve as an extensive repository of literature, available through public libraries, for those conducting their own research in the domain of special education, as well as related services.

### **1.6 Scope of the Study**

The study focused on evaluating the impact of ET (TI and IS), as well as SM programs, OM, GM, BM, on the academic achievement and adjustment of HASSS in Imo State, Nigeria. This research was conducted across a total of twelve (12) secondary schools, representing the three senatorial zones within Imo State. The study's participants were drawn from senior secondary school students in Imo State, forming the primary population under investigation.

### **1.7 Operational Definition of Terms**

The terms utilised in this study are those that are operationally defined as such:

**Academic Achievement** – Academic achievement, in this context, refers to the degree to which a high-ability student has successfully attained specific objectives that are the central focus of classroom instruction. This measurement is assessed using the English Language and Mathematics Achievement Test specially created for this research.

**High Ability Student**- This refers to a student who demonstrates clear indications of exceptional achievement and proficiency in intellectual, creative, or artistic capacities, or in particular academic domains. This assessment is determined through the utilization of the High-Ability English Language and Mathematics Achievement Screening Tests, which were specifically developed for this research.

**Enrichment Triad** - This refers to programmes put in place by schools (tiered instruction and independent study) to foster and enhance the academic achievement of HASSS as measured by the tiered instruction and independent study enrichment scales.

**Tiered Instruction:** This concept entails delivering lessons that are designed to cater to the diverse readiness levels and achievement abilities of High-Ability Secondary School Students (HASSS). It involves enabling students to progress towards a specific goal or objective at a level that aligns with their existing knowledge while fostering ongoing development. The measurement of this concept is conducted using the tiered instruction scale specifically devised for this research.

**Independent Study:** This has to do with the act of providing HASs with an opportunity to research on a topic with guidance from the teacher for an agreed amount of time and credit. In this context, students acquire a deeper understanding of the subject matter in a manner that allows for greater independence than what is typically achievable in a traditional course or classroom setting. This progress is evaluated using the independent study scale developed specifically for this research.

**School Mentorship-** This is a formal or informal relationship between a mentor and a student who is a mentee in a school setting with aim of improving the student with high ability achievement in order to become what the student he/she wants to be as measured by OM, GM and BM scales designed for this study.

**Bibliotherapy Mentorship:** This practice involves utilising literature to nurture the mind, empowering High-Ability Students (HASs) to address personal challenges, ultimately aiding their growth and development through reading. It is measured by the BM scale designed for this study.

**Group Mentorship:** This occurs when a single mentor is matched with a cohort of mentees to the extent that the process offers HASs the benefit of teamwork, support, and inclusion. It is measured by the GM scale designed for this study.

**One on One Mentorship:** One-on-One Mentorship (OM) entails the establishment of a mentoring relationship between a single mentor and mentee. The primary objective is to provide guidance and support, typically within the mentor's area of expertise. The effectiveness of this mentorship is assessed using the OM scale specifically crafted for this research.

**Academic Adjustment** – This refers to how well students adapt to educational demands, such as motivation to complete academic requirement, academic effort and satisfaction with academic environment as measured by the Academic Adjustment Scale designed for this study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter reviews related literature on the study under the following sub-headings: conceptual, theoretical and review of empirical literature:

#### **2.1 Concept Review**

##### **2.1.1 Nature and Description of High Ability**

The notion of "high ability" is influenced by social perceptions, just like how different people's ideas of music or fine dining. According to Clark and Shore (2004), it is crucial for people to first define how they comprehend the idea of high ability. Students' work is often categorised by teachers as being poor, adequate, good, very good, or excellent. There are students in every class, frequently a few of them that consistently surpass other students in one or more subject areas in terms of grades and academic achievement (Clark and Shore, 2004). These students can be regarded as high ability students because they are performing at a level above the majority of the class. This distinction may occasionally apply to one or more topics or particular fields of expertise.

Furthermore, "high ability" is frequently used to refer to extraordinary potential or accomplishment across a broad range of human abilities. High ability students are individuals whose skills in one or more categories are superior to those of their peers of the same age, according to the State Government of Victoria (2019). High-ability students can coexist with academic issues, disabilities, or physical obstacles and come from a variety of backgrounds. According to the State Government of Victoria (2019), high ability includes students who consistently outperform their peers who are the same age, who have the potential to perform at such high levels (a quality that can be harder to identify than realised potential), who succeed educationally in either absolute terms or compared to their peers (for example, placing in the top 20% of a class or school), or who display a combination of these qualities.

High ability students are defined differently depending on the situation and there is no unified classification for them. In addition to other factors like exceptional success scores, high levels of motivation, originality, or inventiveness, intelligence quotient (IQ) scores are widely used (Doolaard and Onderwijsaanbod, 2010; Pfeiffer, 2012). When compared to peers their own age, expertise, or environment, high-ability pupils outperform them in at least one subject area, and they are distinguished by unusual abilities, drive, interests, or gifts. Every student's high ability shows up uniquely, just as every person is different and has their own personality. Although their abilities might not be readily obvious, high-ability students are often motivated high achievers (Pfeiffer, 2012). A high-ability student may also perform exceptionally well in some academic subjects while struggling or performing only averagely in others, a profile known as high-ability students with learning impairments.

Recognising high accomplishment or potential in high-ability students as well as accepting the possibility that these students may not consistently do well in all situations or subject areas is necessary to effectively meet their needs. When faced with efficiently instructing high-ability pupils, a teacher who fails to take into account their needs may experience substantial difficulties (Alonso and Benito, 2003; Clark and Shore, 2004). When deciding whether someone is highly capable, Clark and Shore (2004) stress the significance of carefully examining relative achievement. There is no defined quantity or proportion of high-ability students in a given class or school. There may be certain groups of students who perform at a high level in certain classes or institutions. Limiting the concept of high ability in such circumstances to just a few or a relatively small number of students may not be beneficial to the majority of the students and may have a detrimental effect on the efficiency and reputation of the institution. On the other hand, it makes sense to infer that more people have the potential for high achievement when extraordinary achievement is not immediately apparent. Students who consistently do well can still be seen as having high ability, even in a class or institution whose total performance is less extraordinary (Alonso and Benito, 2003).

The State Government of Victoria (2019) identified the following as the domains of high ability:



- i. Intellectual capacity often manifests itself in a wide range of academic areas and is characterised by quick learning and the use of sophisticated cognitive processes.
- ii. Physical prowess typically manifests itself in activities like dancing or physical education, demonstrating extraordinary physical abilities.
- iii. Creative talent is frequently displayed through artistic undertakings, which include a variety of creative expressions.
- iv. Outstanding social ability crosses a variety of academic disciplines and is frequently seen in leadership positions, showing the potential for successful interpersonal communication and leadership abilities.

These domains frequently interact in a dynamic way. A young student, for instance, who exhibits high levels of talent in both the physical and artistic domains can go on to become an exceptionally talented and expressive dancer, displaying the fusion of both qualities. A student who excels academically is frequently described as intellectualised, particularly in terms of success on tests and exams. This is generally observed in students who outperform their peers academically, and these accomplishments are frequently valued by society as a whole (Hindal, Reid, and Whitehead, 2013). Note that the idea of high ability contains complex concepts that provoke various points of view (Dai, 2010; Davis, Rimm, and Siegle, 2011). Formal exams are frequently used as the primary gauge of academic success in many civilizations around the globe, while there are a number of additional approaches as well. High-ability pupils are essentially individuals who perform extraordinarily well on exams and tests, far exceeding the achievements of their classmates. The capacity for working memory (Gathercole, Lamont, and Alloway, 2006; Reid, 2008, 2009), the level of field independence (Tinajero and Paramo, 1997), and the degree of divergence (Danili and Reid, 2006) are all associated with performance on exams and tests.

When assigning the label of "high ability" to students, Clark and Shore (2004) additionally emphasise two crucial factors. First off, there is a belief that high-ability pupils can occasionally be disliked because they are seen as an undeserving elite with traits that grant unfair advantages. This perspective is echoed in many human languages, where words like "surdoué" in French, "superdotados" in Spanish, and "hochbegabte" in German can have different connotations depending on whether they

are "highly" endowed (less negatively) or "over" endowed (more critically). These adjectives may suggest that these pupils have received benefits without crediting the work of other students, their families, or their professors. It is important to note that high ability or accomplishment is frequently seen in students from families who can afford or have access to a high-quality education because of their social position, while in some circumstances, the school system as a whole fail to offer even the most basic services. Second, it's critical to understand that talks on high ability frequently target readers with restricted, sometimes severely constrained, material and financial means (Clark and Shore, 2004). This suggests that having a high socioeconomic standing is not a prerequisite for having high talent.

### **2.1.2 Characteristics of High Ability Students**

High Ability Students (HASs) have a variety of traits that span a range of learning-related areas in addition to social and emotional growth. It's crucial to remember that not all of these qualities must be present for a pupil to be classified as being of high ability. These characteristics can be found in many combinations in HASs, and the more characteristics present, the more likely it is that a kid will be labelled as having high ability. Furthermore, high ability traits may appear in different or surprising ways in different cultural groupings. The following domains and traits related to high ability students have been identified by the State Government of Victoria (2019):

**Intellectual Domain:** In this domain, students with high ability may exhibit the following learning characteristics:

1. Early developmental goals are attained (applies to students in the early years).
2. Quickly pick up new information with little repetition.
3. Outstanding memory skills that lessen the need for repetition.
4. Advanced critical and abstract thinking abilities.
5. An extensive vocabulary.
6. Powerful analytical skills.
7. Inquisitiveness.
8. An inventive mind.
9. Excellent numerical skills.
10. A variety of academic and intellectual pursuits.

11. A propensity to lose oneself completely in interesting tasks.
12. The capacity to pose thought-provoking, inquisitive, and introspective inquiries (more appropriate for older students).
13. A preference for individual work or teamwork with peers of similar abilities.
14. A distaste of monotonous work. The following social-emotional traits may also be present in high-ability students, including:
  - The need to strike a balance between the need for peer acceptability and the goal for academic success.
  - Intensity of emotion.
  - Outstanding empathy, frequently well-developed.
  - A strong sense of fairness and justice.
  - An understanding of humour.
  - A predilection for hanging out with more seasoned classmates.
  - Difficulty choosing a career.
  - A tendency for perfection.
  - Lack of conformance.
  - Early self-concept formation and awareness of one's uniqueness (especially in the early years).

**Physical Domain:** Students with high ability in the physical domain may exhibit characteristics that can impact their learning, including:

1. Strong gross motor abilities.
2. Good hand-eye coordination.
3. Development of a left and right brain.
4. Excessive amounts of muscular vigour.

**Creative Domain:** High ability individuals may exhibit the following learning traits in the creative domain:

1. An outstanding visual memory.
2. A vivid imagination and a propensity for daydreaming.
3. Mindfulness of change.
4. Advanced problem-solving creativity.
5. The ability to think creatively.
6. Enjoyment of acting out roles.
7. Prodigious talent in painting, drawing, or other artistic mediums.

Additionally, non-conformity, extensive creative and imaginative play (especially in early years), and a predisposition for risk-taking are social-emotional traits that may be linked to high aptitude in the creative domain.

**Social Domain:** In the social domain, students with high ability may exhibit the following learning characteristics:

1. A preference for collaborative work.
2. A desire to assume leadership roles.
3. Advanced moral reasoning and judgment.

Perceptiveness, profound empathy, a strong feeling of loyalty, advanced social skills, and remarkable intra-personal abilities are examples of social-emotional traits of high ability in this domain.

A list of universal traits attributed to high-ability learners was also compiled by the Council for Exceptional Children in 1990. They include exceptional analytical capabilities, the capacity to draw generalisations from details, exceptional problem-solving talents, steadfast intellectual curiosity, and a broad range of intellectual interests. Additionally, these pupils frequently exhibit strong vocabulary, voracious reading habits, rapid learning and retention, great comprehension, creative aptitudes, sensitiveness, an improved awareness of rhythm and physical control, sustained focus, accountability, and autonomy in their academic work.

### **2.1.3 Concept of Academic Achievement**

Academic achievement, school achievement, and other terms like "school readiness" and "academic achievement" are all used to describe the complex idea of academic achievement. However, because they are frequently employed interchangeably, these distinctions are frequently purely semantic (Lamas, 2015). Academic success, according to many academics, is the result of learning and is influenced by both students' and teachers' attempts to teach. In the context of education, it stands for a significant component (Rono, Onderi, and Owino, 2014) and an important goal (Narad and Abdullah, 2016). It can be characterised as the information attained by students, evaluated by grades given by teachers and/or educational goals specified by learners as well as educators, to be completed within a certain timeframe. Academic institutions' main objective is to achieve academic excellence, which would improve students' academic performance (Adeyemo, 2001).

Academic success is also very important for anyone working in the area of education (Osiki, 2001).

Academic achievement, according to Ward, Stocker, and Murray-Ward (2006), is a measure of how well students, teachers, or institutions have accomplished their educational goals. Academic success is the capacity to learn, to remember what has been learned, and to effectively communicate what has been learned orally or in writing. Martinez (2007) defines academic performance from a humanistic standpoint as the contribution made by pupils, often indicated through school grades. Similar to other authors, Pizarro (1985) defines academic achievement as a representation of what a person has acquired as a consequence of an educational or training process. It is a way to evaluate a person's indicative and receptive capacities. As a result, the idea of academic accomplishment among students is becoming more important because it stands in for the most desired result of the process of education. Academic accomplishment is viewed as the outcome of a confluence of psychological, social, and economic elements, which contribute to students' diverse growth, according to Dáz-Morales and Escribano (2015).

Academic accomplishment does, in fact, have to do with how well a student manages their work and study (Scott, 2012). It serves as a gauge of students' achievements in a range of academic fields. Teachers and educational authorities frequently use performance in the classroom, graduation rates, and test scores to assess students' levels of achievement. When students perform well in their academic endeavours, they are more likely to experience improved lifelong outcomes, greater self-worth, and increased confidence (Nieder, 2019). As a result, success on assessments related to coursework and students' performance on other types of exams serve as indicators of achievement (Kyoshiba, 2009). The most important predictor or factor of a student's future academic success, according to Bratti and Staffolani (2002), is measuring their prior educational outcomes or successes.

Academic achievement, according to Caballero, Abello, and Palacio (2007), include achieving objectives, goals, and milestones set within the confines of a student's educational programme or course. Grades, which come from evaluations indicating if certain examinations, subjects, or courses have been successfully completed, are often used to express these accomplishments. On the other hand, academic achievement is described by Wilcox (2011) as a person's level of

proficiency in a given field or subject in comparison to accepted norms, frequently assessed utilising the grade point average. Realising educational goals and facilitating efficient instruction are the primary goals of education or academic performance (Lamas, 2015). Intellectual ability, personality, motivation, skills, interests, study habits, self-esteem, and the teacher-student connection are all aspects of academic accomplishment. Divergent achievement is the term used to describe when a student's academic performance falls short of what is expected of them. When performance is below the expected level, it is referred to as having an unsatisfactory level of academic attainment (Marti, 2003).

Definitions of human intellect are not easy to come by. According to Rojas (2005), it can be used as a concept to estimate, explain, or evaluate a variety of behavioural variations between people, including academic success or failure, relationships with others, life aspirations, talent development, academic grades, cognitive test results, and more. According to research by Barchard (2003), personality traits and cognitive skills both strongly influence academic success. Academic success affects a person's career possibilities after graduation as well as whether they are eligible for higher education. Academic success is crucial for a nation's wealth and development, in addition to its relevance to individuals (Steinmayr, Meißner, Weidinger, and Wirthwein, 2017). A case study approach, nominations from different sources, portfolio reviews, and observation measures and ratings are some of the methods used by experts in high-ability education to assess motivation and learning. Additionally, districts may employ assessments of intellect and academic performance (National Association for Gifted Children website, 2017).

Academic success is frequently regarded as illusive since it encompasses so many different things, from promoting students' moral development to getting professional degrees (York, Gibson, and Rankin, 2015). It is difficult to give a thorough description of "academic achievement" due to its complexity. According to Kyoshaba (2009), the kind of school a student attends has a big impact on their academic progress and educational results. The specifics of a student's educational experience are shaped by their school environment. This viewpoint is supported by Considine and Zappala (2002), who emphasise that a child's educational outcomes can be influenced by the sort of school they attend. Schools have a separate influence on pupils' educational achievement, perhaps due to differences in standards and attitudes.

Academic success can be described as the degree to which a learner, instructor, or educational setting has attained their immediate or long-term learning goals. Exams or ongoing evaluations are frequently used to evaluate academic performance. However, there is disagreement over the most effective evaluation techniques or the most important factors, whether it be declarative knowledge or procedural knowledge, such as skills or factual information (Ward, Howard, and Murray-Ward, 1996). The characteristics that accurately predict academic accomplishment are still unknown, hence it is important to take into account things like test anxiety, environmental conditions, motivation, and emotions while creating models of academic achievement. Currently, schools frequently receive financing based on the academic success of their students.

Variations in intelligence and personality have been connected to differences in academic accomplishment (Von Stumm, Hell, Chamorro-Premuzic, 2011). Students who score higher on IQ tests and who exhibit higher levels of conscientiousness—a quality linked to effort and drive for success—tend to perform better in academic settings. In addition to intelligence and conscientiousness, a new meta-analysis indicates that intellectual curiosity, determined by typical participation in intellectual pursuits, strongly predicts academic achievement (Von Stumm, Hell, Chamorro-Premuzic, 2011).

Students who perform well academically frequently have stronger self-worth, lower levels of despair and anxiety, greater social skills, and are less prone to abuse alcohol or other drugs. Commitment to academic performance is largely influenced by positive self-esteem and confidence. It has been demonstrated that parental involvement in their child's education and participation in family activities have a good impact on behaviour, academic performance, and social relationships (Regier, 2011). Therefore, pupils who are proficient in reading, writing, and math are less likely to experience academic difficulties and are better prepared to acquire the critical thinking abilities required for achievement in secondary and post-secondary school.

#### **2.1.4 Concept of Academic Adjustment**

In order to successfully transition into adulthood, adjustment is crucial to everyone's development, especially during adolescence. Fabian (2000) identified a number of student adjustment patterns, including self-control, initiative, and cooperation. It is clear that adjustment is influenced by experiences both inside and outside of the educational setting because almost every student runs into difficulties or impediments in unfamiliar environments, regardless of expectations.

The process of preserving harmonious interactions between a live creature and its surroundings is known as adjustment. Adjustment is defined as the psychological mechanisms people employ to manage and cope with the demands and obstacles of daily life by Raju and Rahamtulla (2007) and Weiten and Lloyd (2003). According to Ugodulunwa and Anakwe (2012), adjustment is the process through which people try to deal with stress, tension, conflicts, and their demands while also trying to preserve harmonious connections with their surroundings. According to Adeniyi (2014), adjustment refers to the patterns or techniques people use to adapt to new circumstances and perform well in them. This emphasises the relationship between a person and their environment during the adjustment process (Ugodulunwa and Anakwe, 2012).

Students at Highly Able Secondary Schools (HASSs) must also adjust academically in order to flourish intellectually and interact with the institution's intellectual community. Academic adjustment, according to Sax, Gilmartin, Keup, DiCrisi, and Bryant (2000), is the process of successfully understanding academic expectations, developing good study skills, adjusting to the academic demands of the school, and not feeling intimidated by teachers. According to Abdullah, Ellias, Mahyuddin, and Uli (2009), academic adjustment refers to how well students handle the rigors of their coursework. The effectiveness of a student's efforts to meet academic requirements, their overall academic environment, their interactions both formal and informal with the school, and their efforts to set academic goals are all factors in academic adjustment. Students that have a hard time adjusting to school circumstances therefore frequently struggle in their academic success.

Academic adjustment, which includes both academic and extracurricular activities, refers to a person's ability to respond appropriately to the educational environment. Given that adolescents spend a large portion of their time in school, one



of education's main goals is to assist students in acquiring the abilities required for successful life adjustments. A person who is well adjusted often has fewer life complaints. On the other hand, poor school adjustment can result in poor academic performance, behavioural problems, and possibly school dropout. To successfully apply corrective actions, it is imperative to accurately diagnose adjustment issues. The socioeconomic circumstances of the society have an impact on how quickly HASSs manifest themselves across cultural boundaries. Adequate programmes like (ET) and (SM) are required for social, familial, and academic adjustment. Therefore, this study examines ET and SM as factors influencing academic success and adjustment in HASSS.

### **2.1.5 Concept of ET**

Enhancing Educational Enrichment, or ET, is essential for raising high-ability children' academic progress. For instance, in primary school, students often interact with their peers throughout class, but they are also given additional resources to stretch their cognitive capacities (Taber, 2007). To formal programmes like Odyssey of the Mind or Destination Imagination, or educational contests like Brain Bowl, Future Problem Solving, scientific Olympiad, National History Day, scientific fairs, and spelling bees, ET might range from minor changes to assignments by ordinary classroom teachers. Even after-school ET programmes have been known to occur (Taber, 2007). Significantly, this enrichment is an addition to normal schoolwork rather than a substitute for it. Critics counter that while it may seem like it is adding to the task for high-ability students, it actually helps to progress their learning rather than just adding to their workload. High-ability secondary school pupils occasionally have the choice to take extra classes in subjects like physics, philosophy, Latin, Spanish, English or maths, as well as participate in extracurricular activities. While some see acceleration and ET as mutually exclusive, others see them as complimentary (Assouline and Lupkowski-Shoplik, 2005).

The main objective of ET is to give students who have learned or can quickly understand the fundamental curriculum extended learning possibilities and challenges. High-ability children who have access to ET programmes and are academically gifted are expected to perform better in class and produce superior academic results. To cultivate curiosity and a love of learning, ET programmes enable students to study

through interesting projects and activities outside of the regular classroom setting (Women and Families Centre, 2020).

Academic ET programmes also provide advanced training in small-group settings for students who grasp the course material easily and desire more difficult learning situations. Common course material may be uninteresting and inadequate for these students rather frequently. This is addressed by academic ET programmes, which offer a more thorough curriculum in line with their increased understanding. These courses give in-depth information on a variety of topics, covering the sciences and languages, and are beneficial to students' academic and intellectual development (Eagle Edge, 2020).

By taking part in an ET programme, students can discover their potential outside of the classroom. Educational ET programmes help students become more self-aware, grasp their coursework better, and expand their interests and talents, all of which contribute to a more positive self-concept. Through exposure to a variety of art and science disciplines, educational ET programmes inspire students to employ their creativity and put their math and technology skills to use (Women and Families Centre, 2020).

Every learner should have the chance to gain from enriching experiences throughout their education, according to Clark and Shore (2004). When these encounters are appropriately personalised and adapted to the student's unique needs do teachers and schools achieve their commitments to highly able students when giving ET experiences to a complete school or class. Although the idea of ET is universal, its implementations might need to be modified to meet the particular needs of each learner (Clark and Shore, 2004). Generally speaking, extracurricular activities (ET) include any curriculum supplement that goes above and beyond the required course of study with the goal of raising student achievement. These modifications can be very helpful if they are created with the requirements of highly capable students in mind (Clark and Shore, 2004).

The WFC (2020) presents five significances of ET in schools:

1. Exposure: School curricula frequently have set parameters and timetables, which leaves little room for students to venture outside of their textbooks. Educational enrichment programmes enable students to learn in a variety of ways by including interesting projects and activities that go beyond what is typically covered in the

classroom. These programmes stimulate students' interest and encourage them to investigate new and fascinating fields of knowledge by mixing multiple disciplines.

2. The development of skills and interests: Educational enrichment programmes are essential in assisting pupils in identifying the skills and areas they may be passionate about. Many students discover their aptitudes for subjects they may not have previously thought about while continuing their studies. They can enhance their innate skills and capabilities by participating in educational enrichment activities, which will benefit their future academic and personal growth.

3. Confidence development and skill improvement: Taking on new tasks and venturing into uncharted territory might be intimidating. However, educational enrichment activities give pupils the skills they need to confidently approach challenging tasks and subjects. Students learn how to learn, adapt to new ideas, and solve issues in an efficient manner through these programmes. Students develop confidence and the capacity to quickly understand and apply new concepts by being given a supportive environment and ungraded assignments.

4. Benefit to the community: Many community-based educational enrichment programmes have sliding-scale pricing, making them accessible to families with a range of incomes. Families with little financial resources can especially benefit from this inclusion since it gives children the tools they need to succeed in school as well as in adulthood. Students can lay a foundation of abilities and learning strategies that will help them in the future by taking part in these programmes.

5. Improving the School Environment: These activities, whether started by the school or through for-profit educational enrichment programmes, definitely help pupils. They stand for a financial commitment to students' lifelong learning endeavours. The educational experience is extended and enhanced through school-based enrichment programmes beyond the core curriculum. Students who take part in these programmes bring their newly acquired knowledge and experiences into the classroom, affecting their peers favourably and improving the learning environment as a whole.

### **Benefits of ET**

Educational Enrichment (EE) programmes have a significant positive impact on all pupils, particularly those who excel academically. These courses give students the chance to learn more in-depth about a subject, encouraging investigation and

creative thinking. But it's important to understand that students from underprivileged families can also benefit greatly from experiences and pursuits that may go outside the scope of their usual educational possibilities. Through engaging in learning-enhancing activities, EE is crucial in giving students a thorough, culturally rich education. Additionally, EE gives students the possibility to participate in a variety of activities that might not quite fit into the prescribed curriculum but yet help them build their character, resilience, motivation, and ability to pursue more expansive goals. These initiatives foster life skills that go beyond the classroom, an understanding of cultural and social challenges, teamwork, and social responsibility (The School Run, 2022).

Certain EE activities are appropriate for everyone in the school. For instance, speaking engagements sessions, off-campus field trips, independent study assignments, the availability of a variety of reading materials in a learning centre, clubs and societies outside of the classroom, participation in or attendance at plays and concerts, the creation of a school publication, or lunchtime radio broadcasts are examples of such activities (Clark and Shore, 2004). Any supplement to the regular curriculum, whether a discussion of current events in a history lesson or a daily news briefing to stir pupils' curiosity in the outside world, can be deemed EE. However, how well these activities are carried out will determine if they are successful for a given kid or group of pupils. These activities might not sufficiently address the educational goals of this particular group unless they are modified to take into account the traits of highly talented pupils (Clark and Shore, 2004).

In how these programmes are conceived up and run, there may be a way to provide broad EE while also meeting the special demands of highly competent students. If a school creates a programme expressly for students with exceptional ability, it can make sure that people in charge of the programme include spin-off activities that are advantageous to the entire school community. For instance, a maths club that investigates uncommon mathematical puzzles might also focus on demonstrating the benefits of geometry in billiards or other games (Clark and Shore, 2004). EE programmes greatly help students develop their skills and increase their drive. The growth of self-efficacy and self-regulation is also positively impacted by EE programmes (Heinz and Heller, 2002; Pereira, Peters, and Gentry, 2010). According to Renzulli (1986), an EE programme should concentrate on teaching

highly capable students creative and critical thinking processes at three levels: exploratory activities that foster an environment where talented students can engage with topics that interest them, guided activities meant to help students develop their thinking processes and problem-solving skills, and research and artistic activities (Jean, 2010).

A series of guest speakers could switch between more specialised and generally interesting subjects. Other students might receive more typical assignments from an internship placement programme that permits highly talented students to spend half a day each week in settings like offices, labs, or with medical or veterinary specialists. Notably, it is frequently easier to modify an EE programme for highly talented students than it is to do the opposite. This is due to the possibility that the personnel in charge of general EE may not have a complete awareness of the requirements for highly capable pupils (Clark and Shore, 2004). There are numerous definitions of EE. According to Correll (1978), experiential education (EE) is any activity that enhances, replaces, or extends instruction beyond what is typically provided in schools. According to Stanley (1976), EE is any educational practise that goes above and beyond the requirements of a subject, grade, or age group without advancing or delaying the student's placement. According to Clendening and Davies (1983), experiential education (EE) is any type of learning that goes beyond the parameters of traditional classroom instruction, course material, and textbooks. This includes a thorough comprehension of the material, a wide knowledge base, and relevance to the learner and their environment. According to Caine and Caine (1991), learning takes place when students' abilities and interests are piqued by sensible amounts of difficulty. Stepanek (1999) offers a scientific explanation for this phenomenon, contending that when activities aren't challenging enough, the brain doesn't release enough chemicals that promote learning, such as dopamine, noradrenaline, serotonin, and other neurochemicals.

### **2.1.6 Types of ET**

The boundaries of curricular structures and governmental mandates are broken down by ET activities. Students can design, create, and learn with no restrictions thanks to the ET activities. The following are just a few examples of the various sorts of ET activities: independent study and tiered assignments.

**Tiered assignment/instruction:** Grouping students for tasks or training based on their past knowledge in a particular subject area is known as tiered instruction and is frequently used simultaneously with tiered assignments. Tiered assignments are used by teachers in different classrooms to meet the various demands of students, claims Tomlinson (1995). To guarantee that students explore ideas at a level that corresponds with their past knowledge and promotes continuing progress, teachers design activities at several levels. This strategy enables student groups to explore key ideas using a variety of techniques. According to Williams (2002), tiered assignments are parallel tasks with changing degrees of difficulty, depth, and abstraction that offer varying levels of scaffolding, assistance, or guidance. Students engage in several levels of activities that are all focused on reaching the same fundamental comprehension or objective. In essence, differentiated assignments allow students to work towards an objective that builds on existing knowledge and promotes continuing development while taking into account variances in student preparation and accomplishment levels.

Tiered exercises cater for the range of student abilities and let students with greater proficiency work at more advanced levels. As part of an ET cluster, small groups may collaborate with a teacher or teaching assistant to go further into a particular topic. Additionally, students who quickly learn a concept are given increasingly difficult tasks or projects, such as various readings, vocabulary words from a higher level, or demanding arithmetic problems. Tiered assignments have a number of benefits:

1. Integrating assessment and instruction.
2. Allowing students to begin learning from their current level.
3. Providing appropriately challenging tasks for students.
4. Allowing for reinforcement or extension based on student readiness.
5. Modifying working conditions to match learning styles.
6. Avoiding tasks that induce anxiety (too difficult) or boredom (too easy).
7. Promoting success and motivation (Tomlinson, 1995).

Lesson tiering makes sure that necessary skills are learned at a rate that's appropriate to each student's level of education. According to Richards and Omdal (2007), tiers of instruction are based on learners' prior knowledge and skills, with the placement of students within a tier decided by pre-assessment results that gauge the

fundamental understanding and skill levels needed for content application. Tiering helps students who have less advanced abilities and background knowledge make significant academic progress. Additionally, it enables students with superior abilities and background knowledge that is above average to go more deeply add complexity, and draw general conclusions about the subject matter. Based on content, procedure, or product, instructional tiering may be used (Pierce and Adams, 2005; Nordlund, 2003). The same curricular materials are used for all students in tiering, but they are modified for topic level, the learning method, and/or the kind of student-developed result. The ability to work on projects which are not too easy nor too challenging is one of the main advantages of tiered assignments. Because they respond to each student's unique learning preferences and enable them to succeed at their readiness level, they are very motivating (Williams, 2002).

Heacox (2002) outlines basic tiered activities for completing a character map:

Tier 1 (Low):

- Describe how the character looks.
- Describe what the character says.
- Explain how the character thinks or acts.
- Identify the most important thing to know about the character.

Tier 2 (Middle):

- Describe what the character says or does.
- Interpret what the character really means to say or do.
- Identify the character's goals.
- Determine what the character would most like others to know about them.
- Examine any changes the character undergoes.

Tier 3 (High):

- Analyze clues the author provides about the character.
- Consider why the author includes these clues.
- Summarize the author's essential portrayal of the character.

Tiered assignments, according to Kingore (2006), provide each student with the right level of challenge by catering to diverse learning styles, demands, levels, and intelligences. It encourages pupils to adopt a growth mindset and places more emphasis on the idea than on individual learning styles.

According to Suny (2014), independent study is a continuation or branch out of a regular course or subject. In contrast to a traditional course or class setting, it gives students the chance to look into an issue in more detail and with more independence. The formal course description for independent study normally consists of an outline created in consultation with the teacher or sponsor and the student. In addition, independent study is a form of instruction carried out by a single student with little guidance (Moore, 2009). In most cases, a student and a teacher choose a research topic together and define rules for a predetermined period of time and number of academic credits (Winebrenner and Brulles, 2012). Highly motivated students might study a passion that might not be covered in a typical academic curriculum through independent studies. They give students the chance to pick up specialised knowledge or develop research skills (Hacker, 2014). With the help of a willing adviser, who makes sure they remain on track and finish their assignments and evaluations, students can pursue independent study, an independently driven course of study, autonomously. Independent study is chosen by students for a variety of reasons, frequently because they are particularly interested in a specialised subject that is not normally included in the regular school curriculum (Fleming, 2019). Students who pursue independent studies have the chance to dive more deeply into their passions and make important choices about how they will use their skills in the years to come (Fetterman, 1988).

Independent study can also be understood by thinking of it as a type of distance learning. According to the principle of distance learning, the student and teacher are separated on a physical or mental level. Worksheets, essays, or internet-based resources are just a few of the ways that the teacher and student might connect (Moore, 1973).

Dewhurst, Macleod, and Norris (2000) emphasize that successful independent study offers preparation for both students and instructors. They highlight several key benefits:

1. **Unique Knowledge and Skills:** Independent study imparts knowledge and skills that are not easily conveyed in traditional classrooms.
2. **Comparable Learning:** Students engaged in independent study often perform as well as their peers in conventional classrooms, as measured by examinations.



3. **Learning Process:** Independent study provides valuable practice in the learning process, promoting self-motivation, concentration, and discipline.
4. **Accessibility:** It is a viable option when access to a physical educational institution is limited.
5. **Convenience:** Independent study meets the convenience needs of many students, especially those with specific scheduling constraints.
6. **Development of Self-Motivation:** Independent study fosters self-motivation, as learners must take the initiative to identify problems, gather data, and draw conclusions.
7. **Individual Responsibility:** In independent study, learners assume full responsibility for their work, eliminating the possibility of coasting by on the anonymity of group activities.

In the United States, a lot of charter schools provide homeschooling and independent study in a variety of settings, including online, offline, and hybrid online/offline approaches (English, 1999; Curry, 2013). Programmes for independent study are very helpful for people who don't feel comfortable in the regular classroom setting. For instance, it is a great alternative for parents, people with health issues, those who have rigorous job schedules, and children who have exceptional academic skills or gifted abilities (California Department of Education, 2014). In order to learn without attending typical class sessions, individuals with high academic status are frequently encouraged to pursue independent studies (Littleton, 1933). Empowering pupils to be independent through self-directed learning activities is another advantage of independent study (Empey, 1968). Therefore, one of the enhancement and supplemental programmes for high-ability students is independent study.

### **2.1.7 Concept of Mentorship**

The idea of mentoring has a long history, going back to the beginning of time. The original mentor was portrayed as a knowledgeable and trustworthy guide in Homer's works. While on his journey, Odysseus left this mentor in charge of his

household, and Athena, posing as Mentor, took on the role of Telemachus' guardian and teacher (National Academies of Sciences, Engineering, and Medicine, 1997).

Oshinkale (2019) defines mentoring as a relationship in which a more seasoned person, referred as the mentor, shares their knowledge, connections, and experience with a less seasoned person within a certain sector, identified as the mentee. In the field of education, mentoring is a technique used to help students learn from seasoned teachers or other professionals who have subject-matter expertise. A mentor could be an instructor, a community person, a student at a higher education institution, or a teacher from a lower grade. High-ability students can work with mentors, who are frequently professionals from numerous fields, for learning in both groups and individually. Before the mentoring session, teachers should brief the mentors they have chosen carefully (Clark and Shore, 2004).

According to Oshinkale (2019), mentoring has advantages for mentors as well as mentees. Mentors have the chance to lead and shape future generations in areas they are passionate about, making sure that the best practises are passed down. Mentees gain from mentors' advice while also demonstrating their preparedness for career advancement and gaining the additional support required for such advancement. A mentor often concentrates on just one mentee at a time, allowing for individualised coaching and professional development (Oshinkale, 2019).

A method called mentoring involves carefully chosen and experienced specialists advising, instructing practically, and continuously supporting students on their path to learning and development. Making the experience of learning relevant to the curriculum or previous experiences is the aim in order to encourage students to explore more and take on more difficult ideas. The teachers' post-session debriefing of mentors is essential to the success of mentoring. This feedback loop helps teachers keep track of the mentoring process while ensuring that mentors are aware of their responsibilities. Informal knowledge, social capital, and psychosocial support related to work, career, or professional development are transmitted through mentoring. This entails face-to-face encounters over a lengthy period between a mentor and mentee who are seen as having different levels of knowledge or experience (Bozeman and Feeney, 2007).

Making a list of possible mentors and carefully considering how to set up mentoring programmes are all important steps that should be discussed openly during

teacher meetings. To safeguard the safety of children and the reputation of mentors, some schools take further precautions by enlisting the aid of local authorities or community members. Typically, prospective mentors are requested for character references to confirm their excellent standing. These precautions are necessary since volunteers might not have the same degree of training or accountability as qualified and certified teachers (Clark and Shore, 2004).

It is also essential to get feedback on the learning experiences from Highly Able Students (HASs) themselves. This can be accomplished by posing the following two questions to the class after a session or activity:

1. What have you learned?
2. How did you learn it?

The teacher might need to provide support with the second question in particular. Both HASs and their teachers must comprehend how these students learn best. High-achieving students possess the capacity to succeed, but it's important to help them learn how to be efficient and independent learners. They should be capable of reading with excellent comprehension, summarising and analysing information, and synthesising and generalising their knowledge. All students can benefit from these abilities, but HASs are likely to use them more frequently and effectively once they have been taught (Clark and Shore, 2004).

### **2.1.8 School Mentorship**

Mentorship includes the influence, direction, and guidance a mentor offers to a mentee. An individual who provides guidance and assistance to someone who is younger, less knowledgeable, or less experienced is referred to be a mentor in this context (Ganser, 2006). The growth of school employees and the improvement of management abilities within organisations are both significantly impacted by mentoring. It promotes dynamic interactions that help students in a classroom context become more creative, professional, and proficient in problem-solving strategies (Scandura, Gavin, and Williams, 2009).

The importance of professional connections, such as mentorship, in promoting the dissemination of tacit knowledge is emphasised by Nonaka and Nishiguchi (2001). A cooperative and mutually beneficial attitude between the mentor and mentee is what

defines mentoring (Lim, 2005). It aids in the development of students' careers and provides a role model, making a substantial contribution to their entire growth.

Researchers are becoming more aware of the complexity of the mentoring process, which has many facets and is not always simple (Head, Reiman, and Thies-Sprinthall, 1992). The foundation of mentoring is a commitment to imparting information and expertise to the following generation as well as a conviction in the worth and value of every individual. It is motivated by a commitment to education, a belief in its potential, and a profound regard for individuals who recently joined the educational community (Shadio, 1996).

There are clear distinctions between mentor and "school adviser" or "faculty adviser," despite the term "mentor" occasionally being used interchangeably with these terms. The relationship between a mentor and mentee extends beyond academic guidance and develops over time. Someone who takes a special interest in assisting another person in becoming a successful professional is called a mentor. In some instances, students may find it challenging to form a close bond with their faculty adviser or laboratory instructor. In these situations, they may look for a mentor in another setting, such as a classmate, staff member, friend, or an accomplished person who can provide ongoing support and guidance (National Academies of Sciences, Engineering, and Medicine, 1997).

A willing student is guided, taught, influenced, and supported in a sophisticated and multifaceted manner as part of the mentoring process in education. It is based on the mentor and mentee's shared belief and trust. Modelling is a critical component of mentoring since the mentor must be able to put the ideas and guidance they are giving the mentees into practise (Gay, 1995). The mentor should also serve as an example of the student's role in education.

It is crucial to clearly define the mentoring program's objectives and expectations. These objectives and expectations must be tailored to the various mentorship models that will be established and the desired results (Janas, 1996). Depending on the level and activities of both the student and the mentor, the mentoring relationship's nature may change. Although there may be advantages for the mentor as well, the general objective is to promote the student's academic and personal development (National Academies of Sciences, Engineering, and Medicine, 1997).

### 2.1.9 Types of Mentorship

There are three primary types of mentoring, each with its distinct characteristics and advantages:

1. The most typical and established type of mentoring is **traditional one-on-one guidance**. It entails a one-on-one connection amongst a mentor and mentee in which the mentor, who is frequently an authority in a particular industry or area, offers the mentee advice and assistance. In this kind of mentoring, the mentor imparts knowledge and provides guidance on personal and professional development to help the mentee advance. A formal mentoring programme or the individuals themselves may connect up a mentee and a mentor. The mentoring relationship may be more flexible, adjusting to the needs of the participants, or it may have a predetermined structure and duration (Matthew, 2021).

2. **Distance Mentoring**, also known as virtual mentoring, occurs when a mentor and mentee—or possibly a group of mentees—are situated in separate areas of the world. With the development of technology and online connection, this kind of mentorship has become more common. While virtual mentoring adheres to the same fundamentals as one-on-one mentoring, it does not require close physical presence. Even if they are not physically present together, mentors and mentees can interact, communicate, and work together efficiently through virtual platforms and digital technologies. Due to the adaptability and accessibility of this strategy, mentoring relationships can flourish despite distance. To support mentoring in the digital age, many organisations now provide virtual mentoring possibilities (Matthew, 2021).

3. **Group Mentoring**: In group mentoring, a mentor works with a number of mentees at once. When a greater number of people must be impacted in a shorter amount of time, this strategy is especially helpful. When there is a lack of mentors available or when specialised abilities or expertise need to be efficiently distributed, group mentoring might be a good alternative. It is useful for processes like employee induction and onboarding since it cultivates a sense of teamwork, support, and inclusion among the mentees. Although there may be an initial programme framework when a single mentor is paired with a cohort of mentees, the mentor frequently has the freedom to direct the pace, development, and events within the group as a whole (Matthew, 2021).

### **2.1.10 SM: Bibliotherapy**

According to Pardeck and Pardeck (1994), bibliotherapy is also known as biblioeducation, the library therapeutics, biblioprohylaxis, literatherapy, bibliocounseling, bibliopsychology, and tutorial group therapy. The word "bibliotherapy" was first used by Crothers in 1916 to refer to the practise of using books to help patients understand their medical conditions (Briggs, 2008). According to Rudman, Gagne, and Bernstein (1993), the phrase itself is derived via the Greek words "biblion," which means "book," and "therapia," which means "healing."

The origins of bibliotherapy can be traced back to the 1930s, when librarians started developing lists of written resources that could help people reshape their thoughts, feelings, or behaviours for therapeutic reasons (Eisenman and Harper, 2016). According to Forgan (2002), bibliotherapy is the use of books to promote mental health while enabling people to overcome their own obstacles. Teachers have an interactive and personal role in assisting students in reflecting on and authenticating their experiences, which transforms it into a tool for developing the skills and knowledge necessary for self-control and self-regulated learning (McCombs, 2001).

Bibliotherapy is a discipline that focuses on using literature to promote personal growth and development. This application can be used by teachers to manage the classroom as well as across the curriculum.

Bibliotherapy involves assisting readers in comprehending and resolving social, emotional, or developmental difficulties by linking them with fictional characters who experience comparable issues or requirements. Discussions with reliable adults then follow the reading. All students can benefit from this strategy, but it is especially helpful for those going through things like divorce, learning challenges, or adoption (Fisher, 2009). The potential of developmental bibliotherapy as a whole-class strategy for addressing students' common problems is highlighted by Catalano (2008). This preventative strategy encourages critical thinking, acceptance, and problem-solving, mirroring Knoth's belief that preventing emotional trauma is preferable to treating its symptoms (Catalano, 2008). According to Stamps (2003), bibliotherapy is a method used to help students deal with current challenges or problems in their lives.

The fundamental tenet is that students can identify with fictional characters that have comparable struggles, allowing for emotional release, new viewpoints, and novel approaches to life (Gladding and Gladding, 1991). In its purest form, bibliotherapy entails choosing books that are pertinent to a person's circumstance in life. Additionally, it frequently includes writing, acting, or introspective discussions. Books provide a secure setting for pupils to explore a range of ideas, emotions, and attitudes while better understanding their surroundings, their community, and societal norms. Open talks about feelings and thoughts are facilitated by carefully selected texts, which help participants recognise and understand their own characteristics as well as the complexities of human cognition and behaviour. According to Gladding and Gladding (1991), bibliotherapy may also enhance social development and a love of books and reading in general. Well-written fiction exposes readers to difficult situations that act as a stimulus for thinking through problems in real life and considering potential solutions (Larson and Hoover, 2012).

Marilena (2012) identifies conflicting viewpoints on the application of bibliotherapy. While many believe it should only be used for therapeutic purposes by psychologists and psychiatric counsellors, a cutting-edge approach to developmental bibliotherapy contends that instructors can use it in their classes. Most high-ability students are excellent readers, therefore bibliotherapy can be a beneficial learning opportunity for them. It gives people the chance to better understand themselves, deal with emotions of loneliness or being distinct from their peers, confront challenges, learn new perspectives on diverse circumstances, and grow personally.

To sum up, bibliotherapy is an approach that encourages personal development and problem-solving through utilising literature. According to Fries-Gathier (2009), bibliotherapy interventions can assist young people in using books to empathise, develop understanding of themselves, and deal with behavioural, emotional, and social issues. The proper book has the power to help people gain self-awareness. The nicest sensation is experienced while reading a book that connects with one's life experiences and serves as a reminder that one is not alone, as Mathers (2014) so eloquently states.

## **2.2 Theoretical Review**

### **2.2.1 Theory of Zone of Proximal Development (ZPD)**

Lev Vygotsky, a psychologist, proposed the Zone of Proximal Development (ZPD) theory as a learning theory that may be used in a variety of contexts, including classrooms, where people have the chance to learn new abilities (Eun, 2017). According to Vygotsky's definition of ZPD (Vygotsky, 1978), it is the difference between what a person can accomplish on their own as opposed to what they can accomplish with expert aid. As a result, the ZPD relates to a learner's capacity to accomplish tasks successfully while being guided by experts, which frequently comes up in the realm of assisted or scaffolded learning. Making ZPDs entails helping students structure the cognitive components of learning tasks while taking into account their present skill levels (Walker, 2010).

The word means that the support given goes just a little bit beyond the learner's current competency and complements their existing talents, according to Cole and Cole (2001). The core principle of Vygotsky's theory is the discrepancy between a learner's capacity for independent task completion and their requirement for supervision. In the ZPD, Lake (2012) distinguishes three different categories that describe a learner's skill set:

1. Tasks that a student cannot complete even with assistance: These are the tasks that are outside of the learner's ZPD and cannot be finished by them even with professional aid. In these situations, professionals might think about lowering task complexity to better match the learner's abilities.
2. Tasks that a student can complete with assistance: Learners in this group are almost done developing the abilities required to finish a task, but they still need professional direction. Here, specialists use a variety of strategies to improve the learner's comprehension of the ideas and abilities required to complete the activity on their own.
3. Work that a student can complete on their own: At this point, students have learned the necessary skill set and can accomplish activities on their own. They are no longer in need of professional assistance. To determine the next ZPD and encourage further learning, experts may put learners to the test by making the activity more difficult at this point.



The idea of ZPD is relevant in many different disciplines and has significantly impacted education, particularly in the area of high-ability education. It directs the creation of age-appropriate curricula and instructional strategies. In education, assistance within the ZPD, where success is vital for aid, is where teaching and learning are most effective. Rasmussen (2001) pointed out that ZPD acts as a kind of support for students' growth and learning. According to Jacobs (2001), ZPD refers to the process by which peers or teachers provide students with the resources they need to study.

In line with Eun (2017), several core concepts, developed by Vygotsky and elaborated upon by subsequent scholars, underpin the success of this learning theory. These concepts involve:

- i. The presence of a knowledgeable individual who can guide the learner.
- ii. Scaffolding refers to supportive activities provided by experts to guide learners.
- iii. Social interactions that enable learners to refine their skills and abilities.

According to Vygotsky (1978), learning occurs best in groups, and working together with others who have more experience helps learners pick up and internalise new ideas, psychological tricks, and skills. An expert offers the proper assistance to a learner when they are in their ZPD to assist them perfect a new task or skill. The term "scaffolding" refers to the supportive actions, guidelines, resources, and instruments employed in this process.

Examples of scaffolding employed by educators may include:

- i. Asking students for their thought process, problem-solving strategies, or alternative approaches to a task.
- ii. Demonstrating how to solve similar problems or complete analogous tasks.
- iii. Facilitating small group discussions among students to explore new concepts.
- iv. Employing visual aids to aid students' understanding of tasks.
- v. Encouraging students to use prior knowledge to comprehend complex topics.
- vi. Leveraging metacognitive online tools like self-assessment and self-correction to assist students in learning (Doo, Bonk, and Heo, 2020).

Ultimately, scaffolding can be gradually removed as the student gains independence and becomes capable of completing tasks autonomously.

### **2.2.2 Gardner's Multiple Intelligences' Theory**

In his book "Frames of Mind," Howard Gardner developed his idea of multiple intelligences (MI), which was first presented in 1983. The traditional idea of intelligence as a single concept is challenged by Gardner's theory, which suggests that human cognitive competency is better understood as a collection of unique skills, talents, or mental capacities he describes to as intelligences (Gardner, 2006). This idea is based on a pluralistic understanding of the mind, which acknowledges that people think and behave in diverse ways and have varied strengths and limitations across all areas of intelligence (Gangi, 2011). At Harvard University, Gardner conducted his research as part of the Project Zero programme, which looked at case studies of people with a range of mental talents, such as those who were gifted, possessed savant-like skills, were mentally impaired, suffered from brain damage, or were seen as "normal." The goal of the study was to comprehend how the mind functions and how certain cognitive processes are linked to particular brain regions (Gardner, 1983).

According to Gardner (1995), intelligence is a physiological and psychological potential that can be realised to varied degrees depending on a person's upbringing, environment, and drive. In a nutshell, intelligence is the capacity to comprehend information and apply it to solve problems or produce new things (Gardner, 1983). Gardner's research for the Project Zero study made him doubt the reality of a single general intelligence and give several specialised intelligences more thought. When Gardner first proposed the notion of MI, he first identified seven different intelligences, each connected with a certain region of the brain: spatial, linguistic, logical-mathematical, bodily-kinesthetic, musical, intrapersonal, and interpersonal. He proposed naturalistic intelligence as the eighth intelligence in the 1990s (Gardner, 2003). In anticipation of additional data gathering and analysis, Gardner is also developing a ninth intelligence, existential intelligence (Gardner, 2009).

According to Gardner (2009), the general intelligence (g) paradigm falls short of capturing the variety and adaptability of human intellect. He suggests that each person possesses nine coexisting intelligences. Multiple intelligences may coexist, according to Gardner's research on people who had particular sorts of brain damage. Gardner discovered that while one section of the brain can be disabled, another area remained untouched (Gardner, 2005). Every human possesses and uses all nine

intelligences, according to Gardner (2006), however they each have different capabilities. Within a person, these intelligences coexist harmoniously.

Additionally, a person's genetic makeup and cultural upbringing have an impact on the way they utilise and cultivate their favoured intelligences. For instance, to thrive at dancing, a dancer must have strong spatial, bodily-kinesthetic, musical, interpersonal, and intrapersonal intelligences. All nine intelligences cooperate to create this art, even though one may be more dominating. A dancer's talent is shaped through cultural exposure to particular dance genres as well as genetics, which may help explain their outstanding balance. How a person uses their skills is affected by genetic, cultural, and personal intelligence choices (Gardner, 2003).

Initially, Gardner did not outline the purposes or audience for his MI theory (Williams, 2002). However, teachers have accepted the notion and used it in their lessons (Gardner, 2003). Teachers must first comprehend the nine intelligences in order to apply the MI theory in the classroom. They can modify their teaching strategies to fit with their pupils' intellectual strengths once they have determined what those strengths are. According to research, applying the MI theory to teach to students' strengths has many advantages, such as satisfying each student's unique learning needs and keeping students interested, which can boost academic performance (Gardner, 2003).Gangi (2011) claims that Howard Gardner's theory of multiple intelligences identifies nine different intelligences, each of which represents a different method by which people acquire and process information:

1. Linguistic intelligence: This intelligence entails being able to comprehend both spoken and written language. Strong language learners are particularly adept at storytelling, idea generation, tape recording, journal writing, and publishing. They enjoy reading, telling stories, and using language.
2. Understanding of logic and mathematical concepts is a component of logical-mathematical intelligence. Students that possess this intelligence strength appreciate learning tasks that need logical reasoning, such as arithmetic, quantifications, classifications, and categorizations. It places a focus on sound reasoning.
3. Spatial Intelligence: The ability to visualise what is said, read, or written and to control those visualisations are also aspects of spatial intelligence. This type of learner comprehends new knowledge better when using mental or actual

images. They can show off their skills by drawing, using maps, and resolving puzzles, for example.

4. Musical intelligence: The ability to make, perform, and enjoy music is referred to as musical intelligence. Students who possess this intelligence strength are able to learn through poetry, songs, rhythms, and chants. It also includes the ability to hear rhythms and patterns in music and to use music to convey emotion.
5. Bodily-Kinesthetic Intelligence: This intelligence relates to the ability to learn by movement and to solve problems or produce things utilising one's entire body or particular bodily parts, such as the hands or mouth. Strong body-kinesthetic learners succeed at tasks like the role-playing building, engaging in games, and hands-on tasks and have good hand-eye coordination.
6. Interpersonal Intelligence: Interpersonal intelligence is the ability to comprehend others and is frequently referred to as "people smart." People with this cognitive strength value their relationships with others and collaborate well. Peer sharing, cooperative groups, board games, and simulations are among the activities.
7. Intrapersonal Intelligence: The ability to comprehend oneself is a sign of intrapersonal intelligence. Students who possess this cognitive strength are self-assured and do well on their own. They have a strong sense of self and are adept at introspection. Working alone, making individual decisions, developing personal goals, and practising meditation are some intrapersonal learning activities.
8. Naturalist intelligence: Naturalist intelligence refers to the ability to recognise and classify elements of the natural world. Students who possess this cognitive strength like being outside, discovering the outdoors, and studying various plants and natural phenomena. It requires environmental knowledge, awareness of the environment, and sensitivity to the natural world's aspects.
9. Existential Intelligence: Possessing existential intelligence means being able to think critically about the nature of existence and the meaning of life. Students that possess this intelligence trait frequently ask themselves questions like "who are we," "why do we die," and "how did we get here." These students might engage in activities like analysing questions with ambiguous answers,

thinking about how variables interact, and assessing the connections between concepts. There are numerous routes to intelligence and competence, which are highlighted by these nine intelligences (McCoog, 2010). They illustrate the various ways in which people can succeed in their learning and comprehension of the world.

The multiple intelligences are largely independent of one another and can be combined in a variety of flexible ways by people and cultures. Each person has a different cognitive profile as a result of these intelligences, which are classified as both biological and psychological potential and are not equally distributed throughout various skill categories. These skills frequently work together without difficulty, obscuring their independent autonomy (Gardner, 1983). Gardner backs up his idea with examples of people, such as autistic savants, who have amazing ability in some cognitive domains while suffering from significant deficiencies in others. He often makes reference to persons with acquired brain injuries who, despite general limitations, still exhibit some gifts or faculties. Such instances do happen, but they are the exception rather than the rule. People who perform very well on one of the eight subscales of intelligence frequently also succeed in other domains. Gardner contends that this shows the coexistence of different intelligences, although there is little empirical data to back up this assertion, prompting some to suggest the presence of a single, general intelligence. Gardner's recent suggestion to add three more intelligences to the model and expand it has also cast doubt on the theory's scientific foundation (Gardner, 1983).

There has been discussion among academics about whether it is fair to refer to each of the eight components as a "intelligence." These parts may better fit the definition of talents than the more recent, all-inclusive definitions of intellect in some cases. Additionally, certain intelligences place greater emphasis on the results or final products of cognitive processes than on the processes themselves. It is important to note that Gangi (2011) and others contend that additional scientific investigation is necessary to establish this theory as a model for gifted or highly capable students. Gardner's theory has significantly contributed to enlarging perspectives of educators on human capacities while encouraging a diverse and differentiated curriculum that caters to various talents.

**Table 2.1: The Multiple Intelligences Table**

<b>Intelligence</b>	<b>What Learners Like To Do</b>	<b>Teachers Can</b>
Interpersonal	<ul style="list-style-type: none"> <li>- Attuned to the emotions and sentiments of others</li> <li>- Possesses a keen understanding of people</li> <li>- Engages in effective and collaborative interactions with others</li> <li>- Demonstrates adept leadership, sharing, and organizational skills</li> <li>- Capable of mediating conflicts between individuals</li> <li>- Enjoys participating in social games and activities</li> <li>- Listens attentively to others</li> <li>- Thrives in the company of many friends</li> <li>- Practices mindfulness and meditation</li> <li>- Skillfully fosters consensus and exhibits empathy towards others</li> </ul>	<ul style="list-style-type: none"> <li>- Implement cooperative learning techniques</li> <li>- Delegate group projects to students</li> <li>- Provide opportunities for peer teaching</li> <li>- Encourage collaborative problem-solving through brainstorming</li> <li>- Create scenarios where students receive feedback from their peers</li> </ul>
Intrapersonal	<ul style="list-style-type: none"> <li>- Prefer solitary work</li> <li>- Self-motivated</li> <li>- Intuitive</li> <li>- Attuned to personal emotions and moods</li> <li>- Recognize own strengths and weaknesses</li> <li>- Employ self-awareness for decision-making and goal-setting</li> <li>- Regulate personal emotions and moods</li> <li>- Possess a sense of independence</li> <li>- Display strong determination and firm personal beliefs</li> <li>- Pursue individual interests and establish personal agendas</li> <li>- Exhibit self-assurance</li> <li>- Reflective</li> <li>- Learn through observation</li> <li>- Utilize metacognitive skills</li> </ul>	<ul style="list-style-type: none"> <li>- Permit students to progress at their own pace</li> <li>- Allocate individual, self-directed projects</li> <li>- Assist students in establishing objectives</li> <li>- Offer chances for students to receive feedback from their peers</li> <li>- Engage students in journal writing and other reflective activities</li> </ul>
Bodily-Kinaesthetic	<ul style="list-style-type: none"> <li>- Utilize one's body for communication and problem-solving</li> <li>- Retain information through bodily sensations</li> <li>- Excel in learning through physical activities</li> <li>- Struggle to remain seated for extended periods</li> <li>- Possess intuitive feelings about situations</li> <li>- Demonstrate proficiency in tasks requiring fine or gross motor skills</li> <li>- Engage in sports and physical activities</li> <li>- Utilize body language and gestures for communication</li> <li>- Take pleasure in engaging in crafts and mechanical projects</li> <li>- Participate in activities like dancing, acting, or miming</li> <li>- Demonstrate an aptitude for easily imitating others</li> </ul>	<ul style="list-style-type: none"> <li>- Incorporate tactile and movement-based activities</li> <li>- Provide opportunities for role-playing and acting</li> <li>- Engage students in physical activities</li> <li>- Permit students to move while working</li> <li>- Include tasks such as sewing, model making, or other fine motor skill activities</li> </ul>
Linguistic	<ul style="list-style-type: none"> <li>- Engage in verbal thinking</li> </ul>	<ul style="list-style-type: none"> <li>- Initiate reading and writing</li> </ul>

	<ul style="list-style-type: none"> <li>- Employ language and words in various forms to convey intricate meanings</li> <li>- Enjoy sharing jokes, riddles, or puns</li> <li>- Have a penchant for reading, writing, or storytelling</li> <li>- Possess an extensive vocabulary</li> <li>- Participate in word-based games</li> <li>- Exhibit a strong memory for names, places, dates, poetry, lyrics, and trivia</li> <li>- Craft poems and stories using the sounds and imagery of words</li> <li>- Find spelling to be a straightforward task</li> </ul>	<p>projects</p> <ul style="list-style-type: none"> <li>- Assist students in preparing speeches</li> <li>- Generate enthusiasm for debates among students</li> <li>- Organize word games, crossword puzzles, and word searches</li> <li>- Promote the use of puns, palindromes, and unusual words</li> </ul>
Logical– Mathematical	<ul style="list-style-type: none"> <li>- Approach problems with logic</li> <li>- Grasp numerical concepts easily</li> <li>- Identify patterns effortlessly</li> <li>- Have an affinity for abstract ideas</li> <li>- Resolve issues through logical reasoning</li> <li>- Perform mental calculations effortlessly</li> <li>- Analyze situations, work with numbers, and deduce outcomes</li> <li>- Possess an understanding of how things function</li> <li>- Pose profound questions</li> <li>- Demonstrate precision in tackling problems</li> <li>- Thrive in scenarios with clear-cut solutions</li> <li>- Have an inclination towards computers</li> <li>- Formulate experiments to test hypotheses</li> <li>- Think categorically and discern connections between concepts</li> </ul>	<ul style="list-style-type: none"> <li>- Create Venn diagrams</li> <li>- Incorporate strategic games</li> <li>- Encourage students to illustrate their comprehension with tangible objects</li> <li>- Chart data on graphs</li> <li>- Develop timelines and design maps</li> </ul>
Musical	<ul style="list-style-type: none"> <li>- Exhibit sensitivity to non-verbal sounds in the environment, including melody and tone</li> <li>- Recognize patterns in rhythm, pitch, and timbre</li> <li>- Engage with music through listening and playing</li> <li>- Connect emotions to music and rhythms</li> <li>- Sing, hum, whistle, and move in response to music</li> <li>- Retain and manipulate various musical forms</li> <li>- Compose and reproduce melodies</li> <li>- Enjoy listening to music while working</li> </ul>	<ul style="list-style-type: none"> <li>- Rewrite song lyrics to convey educational concepts</li> <li>- Prompt students to incorporate music into theatrical performances</li> <li>- Develop musical mnemonics for learning</li> <li>- Teach history by exploring the music of specific eras</li> <li>- Instruct students in music and traditional dances from various cultures</li> </ul>

Adapted from the book *Succeeding with Multiple Intelligences* by Howard Gardner (1996)

### **2.2.3 The Expectancy-Value Theory**

The Expectancy-Value Theory (EVT), proposed by Wigfield and Eccles in 2000, provides a framework for analysing educational beliefs and expectations as relevant outcomes in the present investigation. According to EVT, a student's academic expectations and beliefs are extremely important in deciding how well they perform in school. It has been suggested that encouraging academic attitudes and aspirations is essential for students who might not have the best outcomes in terms of their accomplishments (Wigfield and Eccles, 2000). Although the theory has many different parts, this study focuses on two in particular: generic self-schemata and success expectancies.

Expectations for success are views about how well one anticipates achieving in future assignments, whether in the short term or the long term, according to Eccles and Wigfield (2002). Expectations for success are thought to have a more direct impact on choices regarding performance, actual achievement, effort, and persistence than other parts of the model, such as ability beliefs. This direct connection, as shown by the model, emphasises the strong relationship between students' expectations for their future academic performance and the actual results they obtain. The significance of encouraging expectation beliefs in educational enrichment programmes for first-generation and low-income youth is shown by this connection.

This hypothesis contends that encouraging more optimistic educational expectations can result in improvements in decision-making, persistence, and achievement—all domains where the initial and low-income students frequently struggle. Eccles and Wigfield (2002) cover the incorporation of task-specific beliefs, like ability beliefs, to decisions and outcomes related to performance under the heading of general self-schemata. Ability beliefs are a person's opinions regarding their level of proficiency in a particular activity. The idea contends that academic beliefs indirectly influence students' achievement-related results via their expectations for success, even when these views are not hypothesised to have a direct impact on choices and achievement. In other words, students who hold more optimistic ideas about their academic performance are more inclined to have greater hopes for success, which will likely result in more positive decisions, improved achievement, enhanced persistence, and increased effort.



Although expectancy beliefs and views about academic aptitude have some similarities, they are conceptually different (Eccles et al., 1993; Eccles and Wigfield, 1995). Academic ability views are related to current academic performance, whereas expectation beliefs are future-focused, according to Eccles and Wigfield (1995). Both kinds of beliefs, however, are essential for comprehending students' achievement-related decisions and actions (Eccles and Wigfield, 2002).

Given that studies have shown lower academic achievement, rate of graduation, and postgraduate attendance among first-generation and economically disadvantaged learners compared to their peers, it is crucial to foster both present views of ability and expectations for the future to address these disparities (Hahs-Vaughn, 2004; Prospero and Vohra-Gupta, 2007). Academic achievement is more likely in students who believe they can succeed in school and who have high expectations for their education (Wigfield and Eccles, 2000; Tracey and Sedlacek, 1982). The study of first-generation and low-income students' scholastic aspirations and attitudes is justified by this hypothesis. Additionally, the implementation of academic enrichment programmes in schools is anticipated to have positive effects on students' academic self-awareness and future educational prospects, highlighting the need to assess whether such programmes can help high-ability students develop these expectations and beliefs.

## **2.3 Review of Empirical Literature**

### **2.3.1 HASSS and Academic Achievement**

When compared to their peers, high-achieving students have different learning demands (McAllister and Plourde, 2008). Traditional teaching strategies frequently fail to sufficiently challenge these students because they are repetitious and shallow (Reis and Purcell, 1993; Johnson and Boyce and Van Tassel-Baska, 1995; Johnson and Sher, 1997). This is especially true for topics like maths and science. According to Narad and Abdullah (2016), any educational institution's academic success is mostly dependent on the academic performance of its pupils. Strong academic achievement is well known to lead to better professional prospects and a more stable future. The academic success of pupils has a huge impact on the social and economic growth of a nation. An educated workforce is advantageous to a country because it promotes social and economic advancement (Ali et al., 2009).

Cascón (2000b) found that a key psychopedagogical element in predicting academic success is intelligence. Therefore, it seems sense to utilise standardised intelligence tests to pinpoint populations that could be at risk for academic underperformance. Since educational tasks and activities entail cognitive processes, intelligence and aptitude are widely used as predictors of academic achievement.

Students that go above and beyond cultural norms and expectations are frequently considered potential contributors to the expansion, improvement, and sustainability of a society (Akinleke, 2017). Because academic success demonstrates the acquisition of pertinent knowledge and skill development (Farooq, Chaudhry, Shafiq, and Berhanu, 2011), Singh, Malik, and Singh (2016) establish an obvious substantial link between students' academic achievement and a country's socioeconomic development. This emphasises how crucial it is for teachers to put their students' academic performance first (Farooq et al., 2011).

A study by Gonzalez-Pienda, Nez, Glez.-Pumariega, and Garca (1997) involved 1124 secondary school students in the Galician Autonomous Community. They took academic grades and gave the D-48 IQ exam. According to the study, students with high IQs typically perform better academically overall and in topics like technology, language and literature, mathematics, plastic and visual arts, and natural sciences. The association between IQ and achievement, which varies depending on the metrics employed and declines with age, is typically around .50; it is stronger in elementary school and lessens during high school and university. According to Laidra, Pullmann, and Allik (2007), this reduction is the result of the performance range contracting as students advance through higher stages of the educational system.

According to Reis and Sullivan (2009), high-ability students (HASs) have unique qualities that distinguish them apart from their peers. They excel verbally, have strong problem-solving skills (Gómez-León, 2020; Renzulli, 1986), have exceptional information storage and management abilities, are prone to learn rapidly (Cross and Coleman, 2005), show a rapid grasp of abstract or highly complex problems, have a high level of understanding, maintain a variety of interests, and have a strong sense of curiosity about their surroundings (Manning, 2006). They are also very good in abstract reasoning, information organisation, and neuronal effectiveness (Basten, Hilger, and Fiebach, 2015). These characteristics highlight the need to

provide them with a specialised educational approach catered to their skills. Failure to do so might result in problems like boredom brought on by a lack of challenges (Rimm, 2003) or excessive repetition of activities (Borges and Hernández-Jorge, 2006), which can lower motivation and negatively affect student achievement (Baum, Renzulli, and Hébert, 1995; Morisano and Shore, 2010). Another serious issue comes when, as a result of the overly simple nature of the curriculum, these pupils fail to establish productive study habits (Brodley and Stanley, 2005). To foster mental health through school curricula, Adelodun (2017) emphasises the necessity for particular educational accommodations designed for high-ability students. Their individual learning styles should be taken into account in these diverse educational programmes and services, and they should be challenged to reach their full potential.

The association between intellect and academic accomplishment and a link between personality and academic achievement were contrasted in the study by Laidra, Pullmann, and Allik (2007). According to several assessment techniques, the connection between IQ and achievement is often around 0.50. This association is stronger in primary school and weaker in secondary school and university as people get older. As students go to higher levels of the educational system, the performance range narrows, which causes the correlation to drop.

In diverse contexts, a number of factors have been found to have an impact on students' academic achievement. According to Farooq, Chaudry, Shafiq, and Berhanu (2011) and Ali, Haider, Munir, Khan, and Ahmed (2013), these variables include student effort, previous academic achievement, self-motivation, the socioeconomic status of the students' parents, age, daily study hours, admission points, various entry qualifications, tuition trends, and students' area of residence (rural or urban). According to Miller and Birch (2007), a student's educational experience is positively correlated with their academic success at the undergraduate level, indicating that the sort of high school they attended can have an impact on achievements at the university level.

In-service professional development's effects on students' reading and math achievement have been the subject of conflicting research. Others reported higher levels of student achievement associated with teachers' involvement in professional growth opportunities that were related to their teaching subjects, such as mathematics (Brown, Smith, and Stein, 1995; Wiley and Yoon, 1995), and also in language and

mathematics (Angrist and Lavy, 2001). Other research found a lack of association between professional development and student achievement (Jacob and Lefgren, 2004). Wenglinsky (2000) discovered a link between students' higher-order and laboratory science skills and professional development programmes catered to the demands of special education students. According to a research by Harris and Sass (2007), professional development has a "lagged effect" on student results, with effects showing up three years after teachers have finished their courses. Additionally, studies by Rockoff and Speroni (2010) and Rockoff, Staiger, Kane, and Taylor (2012) examined the connections between principal and mentor assessments of a teacher's efficacy and subsequent student achievement.

The goal orientations, knowledge, and application of methods between high-achieving sixth-grade students and their teachers were investigated in a study by Ee, Boore, and Atputhasamy (2003), in contrast. The findings showed that high-achieving students had a considerable boost in achievement.

Three instructional strategies have been found to address the cognitive needs of high-ability students: acceleration, enrichment and extension activities, and grouping (Southern and Jones, 2004). Acceleration is the process of moving pupils' education along more quickly than customary rules permit. While grouping entails giving students education outside of their usual classrooms or dividing students into different groups depending on levels or skills, enrichment and extension activities involve deepening specific areas of the curriculum. For many years, these tactics have been used in numerous nations.

According to research (Cadenas and Borges, 2017; Rodriguez-Dorta, Rodriguez-Naveiras, and Borges del Rosal, 2017), there is a favourable association between a person's character traits and their academic success. The advantages of acceleration have also been noted in research (Hoogeveen, 2008; Colangelo and Assouline, 2009; Hoogeveen, van Hell, Verhoeven, 2012). However, many high-ability students, particularly in the Netherlands (PISA 2012), lack the necessary motivation and may perform considerably below their potential (Driessen, Mooij, and Doesborgh, 2007). According to studies on high-ability student underachievement, the percentages ranging from 15% to almost 50% of high-ability students suffering underachievement (Morisano and Shore, 2010) have been reported to vary. The Chief Examiners Report of the West African Examination Council (2008) likewise exhibits

this tendency. According to the report, candidates who took the WASC Examination in many science subjects displayed a number of weaknesses, including an inability to correctly interpret questions, a failure to answer questions logically, methodically, and convincingly, poor drawing abilities, a limited understanding of key concepts in biology, a lack of expressiveness, and difficulty correctly spelling a number of biological terms. These deficiencies could indicate a lack of motivation for academic success. According to Olatoye (2008), there is no discernible difference in the achievements of men and women in science.

These results highlight the requirement for a deeper comprehension of how teachers might better meet the academic demands of highly capable pupils. According to "need-supportive teaching" (Stroet, Opdenakker, and Minnaert, 2013), students' motivation can be increased. This is in line with the Self-Determination Theory (SDT). According to SDT, every student has the need for relatedness, autonomy, and competence, and these requirements must be met for motivation to occur (Ryan and Deci, 2001). According to Driessen, Mooij, and Doesborgh (2007), high ability students have significant rates of motivation deficit and underachievement, suggesting that not all teachers are prepared to meet the needs of these highly capable students.

The majority of the time, the way in which exceptionally gifted students outperform their peers and demonstrate abilities that are highly prized by society helps us identify them. In Kuwait, Hindal, Reid, and Whitehead (2013) classified pupils as having "high ability" based on their performance on examinations. They looked at how exam performance connected with measures of working memory capacity, field reliance, divergence, and visual-spatial abilities. They also looked at how examination performance correlated with measures of other cognitive abilities. A sizable sample of Kuwaiti pupils in grade 7 (about 13 years old) participated in the study, and it was determined that a significant fraction of them shown great aptitude for Kuwaiti practises. Their study combined four separate qualities to determine how these attributes may show in students who perform well on exams, even if specific learner characteristics have been connected to examination performance. A principal component analysis of the examination data showed that one factor explained 87% of the variance. It was determined that recall-recognition was the main skill tested on the national exams. The study also discovered that people who excelled across all six

tasks tended to possess highly varied and powerful visual-spatial abilities, as well as superior field independence and working memory capacities.

According to Blazar (2016), teachers have a considerable influence on the academic success and long-term success of their students. According to studies conducted in the last ten years (Nye, Konstantopoulos, and Hedges, 2004; Chetty, Friedman, and Rockoff, 2014), instructors have a significant impact on their students' academic achievement and long-term success. Teachers have a crucial role in providing students with a high-quality education, particularly by sharing pertinent knowledge with them as they follow the curriculum. To efficiently transfer knowledge, they use a variety of techniques like lectures, small group activities, and hands-on learning. However, instructors play a variety of different tasks in the classroom, such as establishing a positive atmosphere, mentoring and nurturing pupils, acting as role models, and seeing warning indications of conflict. Through their classroom practises, involvement in school events, and demonstration of proper behavioural norms, they are accountable for supporting the school's mission and values (Fraser and Walberg, 2005).

### **2.3.2 ET and Academic Achievement of HASs**

By going above and beyond the requirements of the core curriculum, enrichment and acceleration are instructional practices created to fulfil the unique requirements of exceptionally gifted students (HASs). According to Ferrandz, Ruz-Melero, and Bermejo (2018) and Hooegeveen (2008), enrichment requires widening or elaborating on themes from other perspectives. On the other hand, acceleration can take many different forms and allows students to move through their educational journey more quickly (Assouline, Colangelo, and Vantassel-Baska, 2015; Colangelo, Aussoline, and Gross, 2004).

In order to evaluate the effect of enrichment and acceleration programmes on the academic achievement of gifted and talented students, Al-zoubi (2014) conducted a study. Achievement assessments were given before and after the study to the 30 gifted and talented participants. The outcomes showed how these programmes improved the academic performance of gifted and talented students in a good way. In order to satisfy the cognitive, emotive, creative, and psychomotor requirements of HASs, enrichment and acceleration programmes are modifications and additions to

the standard curriculum (Van Tassel-Baska and Brown, 2007). These courses cover subjects, activities, and experiences outside of the core curriculum, testing students' knowledge and curiosities while occupying their time. It is crucial that enrichment and acceleration programmes offer appropriate experiences and academic skills to improve students' abilities since they also support the development of cognitive creativity in pupils (Sebring and Tussey, 1992).

In secondary schools in Nigeria, Fakolade and Adeniyi (2010) looked into the effects of enrichment and self-directed learning models on the academic performance of chosen gifted children. The study used a 3 x 2 factorial matrix with a pre-test, post-test, and control group quasi-experimental design. 75 talented students from eight Nigerian secondary schools were among the participants, and they were divided into three experimental groups at random. The results of the analysis of covariance, which was used to test the hypotheses, showed an important treatment outcome on the academic success scores of children at the post-test but no significant gender effect. The study found that self-directed learning and enrichment models can improve the educational plans for talented students.

In order to meet the needs of academically accomplished mathematics students, Harry, Ansie, and Johann (2017) carried out a case study on acceleration and enrichment. They investigated the experiences of college students who took part in an enrichment and acceleration programme that concentrated on a particular first-year mathematics topic and employed an inquiry-based learning methodology. As a result of the intervention, students provided feedback about their experiences through surveys and interviews. Due to a lack of challenge, academically gifted students frequently exhibit higher degrees of boredom in the classroom (Feldhusen and Kroll, 1985; Sisk, 1988).

Student acceleration and enrichment programmes are designed to keep academically gifted students interested in learning and assist them in reaching their full potential (Stanley, 1976). According to research, these programmes can help first-generation and low-income college students overcome obstacles to academic performance (Hudley, Graham, and Taylor, 2007; Slavin and Madden, 2006). Initiatives like this are essential for boosting graduation rates and encouraging post-secondary degree aspirations among this group as higher education becomes more and more vital for career possibilities (Wolf, 2003).

Studies on the effects of academic acceleration and enrichment programmes on cognitive outcomes, such as grades, retention, and persistence, for first-generation and low-income students, are a limitation in this field of study (Beebe, Burges, Carroll, and Charlens, 2009; Brooks, Jones, and Burt, 2013; McKinney, 2010). More study is required to examine how these programmes affect non-cognitive outcomes.

Various underlying elements, such as academic attitudes and expectations, can have an impact on how academic enrichment and acceleration programmes affect overall success outcomes (Eccles and Wigfield, 2002). In research by Chaney and colleagues (1998), they tracked the achievement and retention of 2,800 students enrolled in academic acceleration and enrichment programmes. These pupils were low-income, female, members of minority groups, and had parents who had only completed high school. Peer tutoring had the greatest impact on participants' tenacity and GPAs, according to the results. This implies that matching students with comparable demographics may have encouraged interpersonal relationships that benefited their retention and grades. Additionally, in one-on-one tutoring situations, these students could have been able to receive immediate help while worrying less about falling behind, which is a regular occurrence in group settings (Schunk, Pintrich, and Meece, 2008).

A study by Dennis, Phinney, and Chuateco (2005) examined the impact of peer support on the academic success of 100 first-generation college students from ethnic minorities. The findings demonstrated that poor academic adjustment and a lower GPA were strongly predicted by a lack of peer support. Lower reports of peer support were still substantially associated with lower academic adjustment and GPA even after adjusting for factors including high school GPA, socioeconomic status (SES), parents' educational level, and motivation levels. The results therefore suggest that universities should foster the growth of peer support networks in order to facilitate academic adjustment and success.

### **2.3.3 SM and Academic Achievement of HASs**

The overwhelming weight of the data points to the importance of instructors in influencing pupils' academic success. According to studies by Hattie (2003), Rowe (2003), Kyriakides, Christoforou, and Charalambous (2013), and others, teachers have the greatest influence on students' academic results at their respective schools.



According to Hattie (2009), they can explain up to 30% of the variation in students' academic performance. Minority students are also affected by this, particularly those who are low-income or first-generation college students. These students frequently mention how crucial faculty support has been to their academic performance (Bensimon, 2007).

For learners who could lack significant familial support, faculty mentoring might be extremely beneficial. Students' optimism regarding their academic ability can be raised by instructors who interact with them positively, concentrate on helping them improve their academic skills, encourage and validate their efforts, and offer academic support. Faculty members can also help students with practical issues like figuring out how to apply for financial aid, contact academic advisors, get ready for graduate school, and ask for assistance when they need it. For first-generation and economically disadvantaged college students who may not have access to such knowledge via their existing support networks, this kind of help is extremely important (Deil-Amen, 2011).

Academic views, motivation, and general academic success can all be greatly impacted by interactions with encouraging faculty members (Schunk, Pintrich, and Meece, 2008). Effective teaching is characterised by flexibility to different styles of learning and classroom dynamics, both in regards to content delivery and mentorship. It entails using top-notch classroom management strategies to establish an environment that is secure, resourceful, and productive (Bonney, Amoah, Micah, Ahiameny, and Lemaire, 2015). Engagement in learning and student perceptions of the quality of the teacher go hand in hand. For example, professors who care about their students, treat them fairly, and promote inquiries likely to have a favourable impact on students' aspirations for higher education. On the other hand, too much lecture time and too much homework might be detrimental to students' learning (Xuehui, Emily, and Tanja, 2008).

The relevance of official and informal school assistance in influencing students' academic performance has also been highlighted by research (Hong, Shull, and Haefner, 2011; Micari and Pazos, 2012). Mentoring has become more popular within academic enrichment and acceleration programmes, although it might be difficult to sustain due to the costs of paying faculty mentors (Gandara and Mejorado, 2005).

According to Johnson, Kahle, and Fargo (2007), teaching is a career that provides opportunity to motivate, encourage, and direct students towards accomplishing their academic objectives. Effective educators work together to develop a learning environment that inspires and supports children. They also interact with parents, other professionals, and people of the community. Teachers who have undergone rigorous pre-service training are more likely to possess traits like in-depth topic knowledge, patience, and a sense of humour that are crucial for influencing students' behaviour in a positive way (Bonney, Amoah, Micah, Ahiameny, and Lemaire, 2015).

Affective teacher behaviours are considerably more important for students' academic success and well-being in contexts that are competitive (Chen, 2005). According to Hughes and Chen's (2011) research, third-grade students who had better second-grade teacher-student interactions also tended to have better third-grade peer relationships. The fourth grade saw an improvement in teacher relationships, and the fifth grade saw an improvement in academic self-efficacy, all of which were related to these favourable peer relationships. Hughes and Chen (2011) measured these relationships using teacher reports, but they also stressed the significance of taking into account students' viewpoints when evaluating teacher-student interactions.

The study by Bakx, Houtert, Brand, and Hornstra (2017) sheds light on the problems teachers have in inspiring high-ability students in elementary schools as well as the obstacles they experience in realising their full potential. In their study, which involved 891 primary school students, including 463 high-ability students, students were given an open-ended questionnaire in which they were asked about their ideas of ideal teacher qualities. Based on the three core psychological demands defined in Self-Determination Theory, the responses were examined. The results showed that, for both high-ability students and their classmates in conventional primary education, relatedness-promoting teaching features were most frequently reported, which is followed by those related to competence, whereas autonomy was less frequently noted. Certain subcategories revealed some disparities, with high-ability students more commonly expressing traits connected to recognising their needs and encouraging them and mentioning "providing choice" less frequently. Additionally, distinctions in the traits mentioned by males and girls were discovered.

Based on this, Midgley and Edelin (1998) propose that a teacher's mastery goal orientation in the classroom should be combined with affective behaviours. According to research by Skaalvik and Skaalvik (2013), among Norwegian elementary- to high-school students, there is a significant positive association between a teacher's mastery goal orientation and students' perceptions of teacher emotional support. Therefore, mastery goal orientation and affective support can both be viewed as beneficial teacher characteristics that improve students' academic results in the classroom (Sakz, 2015).

Positive interactions between students and teachers are essential for promoting school attendance since these students are less inclined to skip class (Rimm-Kaufman and Sandilos, 2012). Building healthy relationships and behaviours depends on having a sense of belonging. The quality of these connections is substantially influenced by the type of teacher-student interactions. Teachers tend to relate negatively with students who may experience peer rejection or who are less academically and behaviorally capable (Varga, 2017). The atmosphere of the classroom as a whole may be impacted by these unfavourable encounters with other students (Jerome and Pianta, 2008).

Teachers need to be conscious of how they communicate with students affect the students. Positive interactions help students who are at risk for poor academic and developmental results acclimatise to school and serve as protective factors for them (Lander, 2009). Building strong bonds with children can have a significant impact on their entire schooling, both within and beyond the classroom. Teachers must therefore take into account the nature of their employment. Students are more inclined to put out effort and participate in academic activities when they are interesting, challenging, entertaining, and applicable to their daily life. Giving students alternatives in their education also gives them the freedom to personalise their learning experiences. For instance, project-based learning has been shown to be more effective in fostering intrinsic motivation than conventional drills and worksheets (Skinner and Greene, 2008). A feeling of community is developed when teachers and students get to know one another better (Brown, 2010), which helps to establish a nurturing atmosphere for learning wherein interpersonal interactions and education are able to thrive.

The Los Angeles Unified School District's 78 pairs of elementary classes in Kane and Staiger's (2008) study indicated that teacher characteristics strongly predict student achievement. They did, however, make an intriguing finding about the long-term influence of teachers on student achievement, noting that the teacher's influence tended to diminish by 50% year on maths and reading achievement. A statistically significant correlation between teacher attributes and student academic achievement was also noted by Ali (2009). Cross-country research have revealed that teacher attributes, such as training, experience, attitude, and personality, are the most important ones. Adesoji and Olatunbosun (2008), for instance, showed a connection between student attitudes and teacher traits, indicating that a teacher's attitude has a direct impact on students' attitudes. Adu and Olatundun (2007) made the case that teacher personality has a significant impact on secondary school pupils' academic performance.

#### **2.3.3.1 Bibliotherapy and Academic Achievement of HASs**

According to Harvey's (2010) research, bibliotherapy provides a helpful means of fostering personal change by fostering problem-solving abilities through reading. By encouraging self-control as a long-term aim of classroom management, this practise aids in reducing the isolation that persons with issues may feel (Eisenman and Harper, 2016). In especially educational settings where it naturally coincides with the objective of increasing social and emotional well-being, educators regard bibliotherapy to be an acceptable strategy to assist students in navigating challenging challenges. The overall efficacy of bibliotherapy in boosting students' confidence in their academic work was revealed by Okon and Jubah's (2006) study, suggesting that it may have a favourable effect on academic accomplishment. Notably, bibliotherapy is an affordable tool that may be quickly accessible from school sources to fulfil the needs of specific pupils.

Fisher (2009) highlights the value of bibliotherapy for students with high aptitude. By exposing these students to works of literature and biographies about people with high abilities, bibliotherapy helps them gain understanding of their own abilities and cope with particular difficulties, like making deep friendships, handling high expectations, and being a unique learner among their peers.

Betul, Marilena, and Leana-Taşclar (2018) examine perfectionism, a prominent personality trait among high-ability students, in the context of bibliotherapy. The results of this study, which looks into how bibliotherapy affects levels of perfectionism, show that bibliotherapy significantly lowers perfectionism, especially in areas like excessive worry about making errors, individual requirements, questioning the efficacy of one's actions, and desires for order and organisation.

Okwilagwe and Maswell (2020), who are examining the effect of bibliotherapy on exam anxiety, find that undergraduate students regularly suffer anxiety during exams and read self-help texts as a coping method. They discover a strong link between bibliotherapy and test anxiety, with bibliotherapeutic novels providing favourable effects for students by helping them connect with characters.

The efficacy of bibliotherapy in raising secondary school pupils' low academic self-concept is examined by Ngwakwe and Adaka (2017). Their results demonstrate the beneficial effects of bibliotherapy on students' self-concept and emphasise its potential to help students better understand themselves, discover fresh approaches to dealing with social and emotional problems, and recognise that they are not alone in their struggles. Bibliotherapy can also help students identify with characters who have faced similar challenges or situations and provide insights into alternate viewpoints.

The goal of a recent study by Adelodun (2021) was to investigate the influence of mentoring and ability grouping as indicators of socio-cognitive well-being among high-ability students in Ibadan, Nigeria. A descriptive survey research approach of the correlational type was used to conduct this examination. 215 high-ability pupils from the research's chosen schools in Ibadan's Ido and Ibadan Southwest Local Government Areas took part. The Slosson Intelligence Test Revised Third Edition for Children and Adults (SIT-R3), the English Language and Mathematics Screening Tests, the Mentoring Relationship Scale, and the Ability Grouping Scale were all used in this study. Analysis of the gathered data comprised multiple regression and Pearson product moment correlation. The study's results showed a strong relationship between ability grouping and high-ability students' sociocognitive well-being ( $r = 0.591$ ,  $n = 215$ ,  $p 0.05$ ) as well as a relationship between mentorship and that relationship ( $r = 0.641$ ,  $n = 215$ ,  $p 0.05$ ). The study also showed that ability grouping and mentoring both made a substantial difference in these students' sociocognitive wellbeing.

#### **2.3.4 ET and Academic Adjustment of HASs**

Al-Zoubi (2014) did a study to look into how Jordan's gifted and talented pupils fare academically after participating in enrichment programmes. One-group Pretest-Posttest was used in the study. 120 male and female seventh-graders who had been recommended for enrollment to the Amman Public Charter Gifted and Talented School (APCGTS) in Jordan made up the study's population. There were equal numbers of male and female pupils in each of the four divisions of these brilliant and talented classrooms. However, the study's sample was made up of 30 students, 15 of whom were male and 15 of whom were female, picked through a lottery using a straightforward random selection technique. 40% of the overall number population under investigation was represented by the chosen sample. An achievement test was created and adopted by APCGTS in order to meet the study's goals. There were 50 multiple-choice questions on this test, evenly spread throughout a range of topics like Arabic, English, science, maths, and cognitive skills. Each right response was given a grade of 1, while each wrong response was given a mark of 0. The Internal Consistency Coefficient, which was calculated using the Kuder-Richardson Formula (KR-20) and produced a result of 0.81, was used to confirm the test's dependability. The means, standard deviations, and means of the pre- and post-achievement test scores were compared using a T-test as part of the data analysis. The study's findings suggested that the implementation of enrichment programmes at APCGTS improved the academic performance of children who were gifted and talented.

#### **2.3.5 SM Programmes and Academic Adjustment of HASs**

The effect of a mentorship plan on improving the academic performance of first-year MBBS (Bachelor of Medicine, Bachelor of Surgery) students was examined in a study by Naga et al. (2020). 148 first-year MBBS students that were accepted to Al Azhar Medical College for the academic year 2017–18 participated in the study. After the first internal exam in the college, the mentorship scheme was put into place in January 2018. The participants in this curriculum were distributed equally among six mentors. A post-exam was given six months after the start of the mentorship programme, and the results were compared to the performance of the students before the training. A paired t-test was used in the statistical analysis to compare the exam results before and after the mentorship programme. A valid questionnaire with a

scoring range of 1 to 4 was also used in the study to gauge the mentees' opinions on the mentorship programme. The study's findings showed that students' mean exam scores after taking part in the programme for mentors were substantially greater ( $p < 0.001$ ) than their scores prior to the program's start. It's interesting to note that relative to their male counterparts, female students showed a greater improvement in their academic performance. Furthermore, students that had originally scored below 50% on the pre-programme evaluation saw a substantial improvement in their academic performance ( $p < 0.001$ ) as a result of the mentorship course. The students' comments helped to further prove the study's success. About 40.5% of those surveyed agreed, and 56.8% strongly agreed, that the mentorship initiative was successful and helpful to them in terms of improving their academic performance.

#### **2.4 Appraisal of Literature Review**

This chapter presents a thorough assessment of the literature on ET and SM as factors influencing academic performance in High Ability Students (HASSS). The examination begins by looking at high ability, a word that is frequently used to indicate remarkable potential and success across a range of fields. The literature review emphasises how crucial it is to define the term "high ability." High-ability people frequently display nonconformity, play imaginatively, and have a risk-taking tendency. The concept of educational enrichment and its impact on the academic performance of high-ability students (HASSS) are discussed in the literature review, which reveals that educational enrichment (ET) is the process of improving the quality or capability of something by adding value or other components. Furthermore, it is emphasised that ET is important for high-ability students' academic success.

Additionally, the literature emphasises how ET programmes for high-ability children serve the objective of providing additional learning opportunities and challenges to students who have already learned or have the aptitude to quickly master the basic curriculum. The idea is that high-ability students who participate in ET programmes and have academic and associated qualities will do better in school and produce higher academic results. The goal of ET programmes is to motivate students to learn in a variety of ways, including through interesting projects and activities that go beyond traditional classroom instruction. These programmes encourage self-awareness and a deeper comprehension of their academic work by

enabling students to identify and realise their potential in a variety of contexts outside the traditional classroom.

The literature also makes reference to various forms of ET programmes that meet the various demands of high-ability students and give them chances to advance their interests and skills. Regarding the idea of mentoring, the literature defines it as a partnership between two people in which the more knowledgeable, experienced, and connected person (the mentor) shares their knowledge and advice with the less knowledgeable, frequently younger person (the mentee) within a particular field. It is seen as a type of influence, direction, and advice provided by a mentor to a mentee. Mentors are someone who advise, help, and transfer knowledge to less knowledgeable or less experienced students, frequently assisting in their career and personal development.

The literature highlights mentoring as an effective strategy for achieving goals, with mentors playing a significant role in counselling, directing, and assisting their mentees in establishing successful careers or their place within an organisation. There are several different kinds of mentoring interactions covered, such as traditional one-on-one mentoring, virtual or remote mentoring, and group mentoring. Safety precautions in mentoring partnerships are also emphasised, highlighting the significance of mentor character references. These precautions are seen to be important because, in contrast to teachers, mentors are frequently not trained or licenced to interact with adolescents, and their obligations and levels of accountability may vary.

Academic achievement is a complex notion, and it is acknowledged that there are many different ways that it can be defined and assessed. The literature study also covers three well-known theories: the Expectancy Value Theory (EVT), the Multiple Intelligences (MI) Theory, and the Zone of Proximal Development (ZPD) Theory, all of which were put out by psychologists Howard Gardner and Lev Vygotsky. The empirical review also looks at the connection between academic success and high-ability students (HASs), the effect of ET programmes on HASs' academic success, and the impact of mentorship on HASs' academic success.



## **2.5 The Study's Model (Conceptual)**

Two variables: Independent models (IVs) and Dependent models (DVs) are illustrated in Figure 2.1.

IVs are two variations of:

(a) Enrichment Triad as shown:

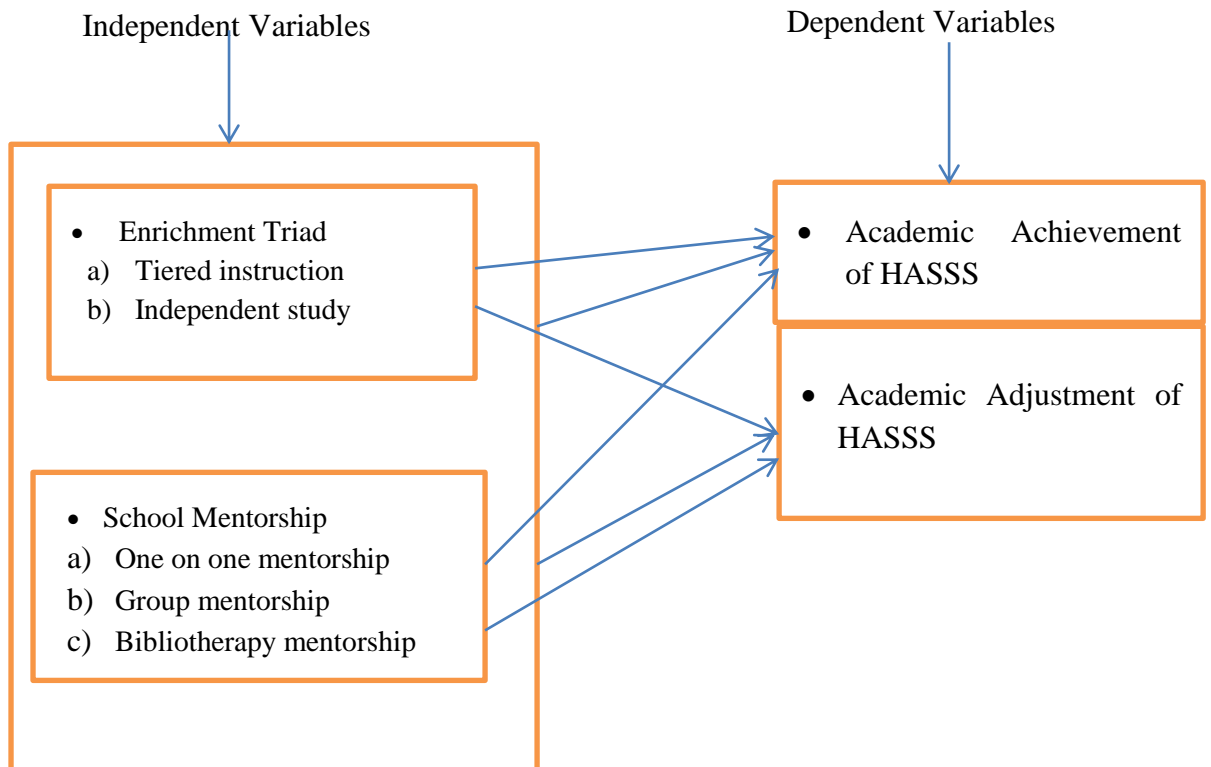
- i. Tiered instruction
- ii. Independent study, and

(b) School Mentorship stated as:

- i. One on one mentorship
- ii. Group mentorship and
- iii. Bibliotherapy mentorship.

The DVs are:

- a. Academic Achievement
- b. Academic Adjustment of HASSS



**Figure 2.1 The Study's Model (Conceptual)**  
**Source: Researcher, 2023**

## **CHAPTER THREE**

### **METHODOLOGY**

The method used to gather and examine the study's data is presented in this section. The study design, study population, sampling procedure, instrumentation, description of instruments, psychometrics of instruments, process for data collecting, and method of data analysis are the subheadings under which the methodology is covered.

#### **3.1 Design**

The mixed-methods sequential design was used. With the help of this design, the researcher was able to investigate the connection between the IVs and Dvs in this study and interview a few teachers in-depth to learn more about the issue. Finding the relationship between the IVs and the DVs was the objective of the study's quantitative component. One experienced teacher from each Imo State school participated in an in-depth interview for the qualitative section. The interview focused on the characteristics of ET—tiered instruction enrichment and individual study programs—as well as the difficulties in implementing them among HASSS in Imo State.

#### **3.2 Population**

All high-ability students from Senior Secondary Schools 1 and 2 in Imo State, made up the study's population. These school-aged adolescents, whose ages ranged from twelve to, were thought to have performed well on scholastic assignments.

#### **3.3 Sample and Sampling Techniques**

The 265 HASs from chosen senior secondary schools in Imo State made up the study's sample. The educational institutions for this study were chosen using a multi-stage sampling process. Imo State, Nigeria, has been divided into the three senatorial zones (Okigwe, Orlu, and Owerri Zone). Twelve out of 27 Local Government Areas (LGAs) in Imo State were randomly selected. Purposive sampling was used to select one public senior secondary school per LGA. Students with high

academic achievement were purposively chosen and screened for high ability using their past academic records, teacher nominations, the Slosson Intelligence Test, and the High Ability English Language and Mathematics Achievement Screening (HAELAS) Test with index score of  $> 60\%$ . Additionally, 12 qualified HASSS teachers (one from each school) were purposively chosen for in-depth interviews.

**Table 3.1: Distribution of the Schools**

<b>S/N</b>	<b>Local Gov.</b>	<b>Names of Schools</b>	<b>Population</b>	<b>Sample</b>
1	Okigwe	Urban Secondary School	33	17
2	Isiala Mbano	Anara Secondary School Isiala Mbano	35	21
3	Obowo	Government Secondary Obowo	34	20
4	Okwelle	Community Secondary School Okwelle	45	28
5	Ehime Mbano	Umuezela Ama Secondary School	29	17
6	Owerri Municipal	City College	34	25
7	Ahazu mbaise	Community Secondary School Ahiara	33	16
8	Aboh Mbaise	Mbaise Secondary School Aboh Mbaise	40	23
9	Owerri North	Development Secondary School Owerri	45	27
10	Ideato South	Akpulu Secondary School Akpulu	37	22
11	Ideato North	Senoir Secondary School Dikenafai	43	25
12	Nkwere	Nkwere High School	31	24
			<b>430</b>	<b>265</b>

**Source: Researcher, 2023**

### **3.4 Instruments**

For data collection, these instruments were utilised:

1. Students past academic records
2. Slosson Intelligence Test- Revised 3 (SIT-R3)
3. High Ability English Language and Mathematics Achievement Screening (HAELMAS) Test
4. Tiered Instruction (TI) Scale
5. Independent Study (IS) Scale
6. One on One Mentorship (OM) Scale
7. Group Mentorship (GM) Scale
8. Bibliotherapy Mentorship (BM) Scale
9. Academic Adjustment (AAD) Scale
10. English Language and Mathematics Achievement Test
11. In-depth Interview Guide for Teachers (IIGT)

#### **Description of Instruments**

##### **3.4.1 STAR- Student's Academic Record**

The academic history of the students was gathered. Also gathered were the respondents' grades on several subjects from their Senior Secondary School (SSS) 1-2 exams. The respondents' average scores were computed. Those who had mean scores of 60 or higher were chosen to take part in the study.

##### **3.4.2 Slosson's Intelligence Test-Revised 3 (SIT-R3)**

The Slosson's Intelligence Test (SIT) is a test used to gauge a person's degree of intelligence. This test, which Slosson first created in 1961 and then revised in 1981 and 2005, is designed to measure general intelligence. Despite being a foreign test at first, it has been modified by academics like Oduolowu (1998), Oyundoyin (2004), Adediran (2011), and Oyefeso (2018) to fit the African environment and cultural context. These modifications involved changing specific test terms or other test components to better reflect the test-takers' cultural backgrounds without affecting the test's reliability.

The intelligence quotient (IQ) of the subjects in this study was assessed using SIT. When creating the SIT and proving its validity, Slosson used the Stanford-Binet

Intelligence Test's 1960 iteration as the benchmark. Concurrent validity coefficients between 0.90 and 0.98 were calculated for a variety of levels. According to Slosson's research, the SIT showed a correlation with its criterion that was comparable to the Stanford-Binet's correlation with itself. The validity of the test was previously validated by Adediran (2011), who confirmed its validity with a coefficient of 0.86 and its reliability with a value of 0.76.

The SIT is a standardised screening exam that provides a quick and accurate evaluation of intellectual capacities in both adults and children. In the context of the present research, it was used to determine the participants' IQ levels to see if they fit the IDEA 2004 criteria for detecting learning disorders. A significant discrepancy between a person's potential and their actual achievement pertains to this criterion. Psychologists, special educators, trainers for learning difficulties, and counsellors can administer the SIT-R3. Its main objective is to identify whether a more thorough evaluation is required, providing a preliminary diagnostic of cognitive capacity or validating other findings as part of a battery of complete tests. The SIT's simultaneous administration and scoring make it unique in that it enables quick and effective testing. It can't be given to large groups of people at once, but its individual administration overcomes the drawbacks of other group-based examinations. Additionally, because it is not unduly time-constrained, it does not penalise people who are careful, methodical, easily worried, or lack motivation.

SIT contains of six verbal cognitive domains:

- i. General Information (GI): This domain includes learning about culture, much of which is usually picked up implicitly or indirectly rather than directly via teaching.
- ii. Comprehension (CO): People are evaluated on their comprehension of social behaviour, common sense, and their capacity to decipher idiomatic expressions and proverbs in this cognitive domain.
- iii. Quantitative (QN): This domain assesses a person's ability to mentally compute, recall pertinent numerical data, and identify the arithmetic operations necessary to arrive at the correct result.
- iv. Similarities and differences (SD): This domain assesses an individual's ability to recognise the distinctions, such as unusual attributes, between two dissimilar things or topics as well as the common attributes they share.

The vocabulary (VO) domain measures a person's capacity for word use, comprehension, and definition. The ability to express oneself verbally depends frequently on one's vocabulary.

- vi. Auditory Memory (AM): This skill focuses on the capability to reliably recall a random sequence of digits in both the forward and backward directions as well as the ability to recall several words.

The purpose of this test was to determine the respondents' IQ and check for HASs.

### **3.4.3 High Ability English Language and Mathematics Achievement Screening (HAELMAS) Test.**

The self-created 30-item test, which included questions in the two fields of English Language and Mathematics, was used to identify HASSS. The test was only used to screen candidates. Only pupils with an accomplishment test score of at least 60% were deemed qualified to take part in the study. The instrument was evaluated using a sample of 20 HAS from a school that did not participate in the study. It was tested, then tested again, after a two-week interval. A PPMC analysis of the results was performed. Test-retest was used to analyse the reliability, and a 0.71 was discovered.

### **3.4.4 Tiered Instruction (TI) Scale**

The efficiency of a tiered education enrichment programme among high-ability children was evaluated in the study using a self-developed scale. There were two divisions on the scale: A and B. Section A gathered demographic data on subjects such as gender, age, class, greatest educational attainment of the parents, occupation of the parents, projected monthly income of the parents, and family structure (monogamy, polygamy, birth position). Twenty questions in Section B were specifically created to assess how high-ability students participated in the tiered education programme.

Tiered instruction or assignments were used for the study's purposes in order to accommodate differences in student preparation and accomplishment levels, allowing students to work towards objectives based on their already-acquired information and fostering continual improvement. Responses on the scale, which ranged from "Strongly disagree" (1) to "Strongly agree" (4), were measured using the



Likert scale. The Tiered Instruction Enrichment Scale (TIES) was examined by specialists in the Department of Special Education to guarantee the validity of the instrument. The measure was additionally pilot-tested on 20 high-ability adolescents who weren't involved in the primary investigation. Cronbach's alpha was used to assess the scale's dependability, and it produced a result of 0.86.

### **3.4.5 Independent Study (IS) Scale**

To evaluate the success of an independent study enrichment programme among high-ability students, the researcher created a scale. There were two divisions on the scale: A and B. Participants' demographic data was gathered in Section A, and questions on the independent study enrichment programme were asked in Section B. Twenty questions were designed for Section B to elicit high-ability students' opinions on their participation in independent study enrichment programmes. With the help of an instructor, students can perform independent study for a certain amount of time and credit on a given subject. It gives students the chance to learn more about a subject on their own time than is generally possible in a traditional course or class. A modified Likert scale with the options "Strongly disagree" (1) and "Strongly agree" (4) was used to gauge answers on the scale. The Independent Study Scale (IS) was examined by specialists in the Department of Special Education to confirm the validity of the instrument. Additionally, 20 high-ability students who were excluded from the main study were used for the scale's pilot testing. Cronbach's alpha was used to assess the scale's dependability, and the result was a value of 0.87.

### **3.4.6 One on One Mentorship (OM) Scale**

To evaluate the success of one-on-one school mentoring among high-ability adolescents, the researcher created a scale. A and B were the two divisions of the scale. The respondents were asked questions about their demographics in Section A and information about the one-on-one mentoring programme in Section B. Twenty questions made up Section B and were created especially to gauge high-ability students' opinions of the one-on-one mentorship programme. One-on-one mentoring was specifically described in the scale as a connection between a mentor and mentee intended to offer advice and assistance, frequently in the mentor's area of specialisation. A modified Likert scale, ranging from "Strongly disagree" (1) to

"Strongly agree" (4), was used to measure the responses on the scale. The One-on-One Mentoring Scale (OM) had a professional assessment by academics in the Department of Special Education to confirm the validity of the instrument. Additionally, 20 high-ability students who were not a part of the primary study used the scale in a trial test. Cronbach's alpha was used to evaluate the scale's reliability, and the outcome was a value of 0.90.

#### **3.4.7 Group Mentorship (GM) Scale**

A scale was created by the researcher to gauge high-ability students' opinions of group mentorship (SM) programmes. This questionnaire is divided into two sections: Section A, which asks participants for demographic data, and Section B, which asks questions about group mentorship programmes. Twenty questions make up Section B, which is intended to gauge high-ability students' opinions on the use of group mentorship programmes. The scale's elements highlight the benefits of group mentoring, including teamwork, support, and inclusivity, which can be especially useful for induction-related objectives. A single mentor may occasionally be paired with a group of mentees. Responses were scored using a modified Likert scale, with scores ranging from "Strongly disagree" (point one) to "Strongly agree" (point four). The instrument had a professional assessment by lecturers from the Department of Special Education (GM) to guarantee its validity. Additionally, 20 high-ability learners who were not a part of the main study used the scale in a trial test, and the reliability of the scale, as measured by Cronbach's alpha, was 0.88.

#### **3.4.8 Bibliotherapy Mentorship (BM) Scale**

Twenty questions are included in Section E of the test about the use of bibliotherapy in the SM (mentorship) programme for high-ability students. This survey has two parts: Section A, which asks respondents for demographic information, and Section B, which asks questions about the use of bibliotherapy in the mentorship programme. The questions in Section B are intended to examine respondents' opinions and experiences with bibliotherapy, which entails utilising books to promote mental health and provide people the tools they need to deal with personal problems. Bibliotherapy is a profession that uses books as a tool to help people grow and develop personally. Response ratings on the scale ranged from

"Strongly disagree" (point one) to "Strongly agree" (point four), using a modified Likert scale. Lecturers from the Department of Special Education (BM) conducted an expert examination of the instrument to determine its validity. In addition, a trial test was administered to 20 high-ability students who were not included in the main study, and the instrument's reliability was determined using Cronbach's alpha, which produced a result of 0.88.

#### **3.4.9 Academic Adjustment (AAd) Scale**

To acquire data on academic adjustment among high-ability students, the researcher created a scale. There are two sections in this instrument: Section A and Section B. While Section B asks questions about the academic adjustment of high-ability students (HAS), Section A collects demographic data about the respondents. The 25 questions in Section B, in particular, evaluate how academically high-ability pupils have adapted to their school environment. A modified Likert scale, with the options "Strongly disagree" (1) to "Strongly agree" (4), was used by respondents to rate their comments. The instrument had a professional assessment by academics from the Department of Special Education (AAd) to confirm its validity. 20 high-ability students who were not a part of the primary study participated in a trial exam that was also conducted. Cronbach's alpha, a measure of instrument dependability, produced a result of 0.87.

#### **3.4.10 English Language and Mathematics Achievement Test (ELMA)**

This test was developed by the researcher on her own initiative to assess students' academic achievement in maths and English. The SS 1–SS 2 English and Mathematics curricula and materials were modified from those used in the majority of Imo State schools. Twenty grammar and reading comprehension questions were generated. Additionally, 20 questions about fundamental math concepts were generated. The face and content validity of the ELMA were carried out by specialists in the fields of mathematics, language education, and English and literacy studies. The instrument was evaluated using a sample of 20 HASSS from a school that did not participate in the study. It was tested, then tested again, after a two-week interval. PPMC was used to analyse the results. A value of 0.84 was obtained from a test-retest reliability analysis.

### **3.4.11 In-depth Interview Guide for Teachers (IIGT)**

With the help of a self-made instrument, the researcher gathered data on teachers' experiences with the enrichment triad (TI IS) and school mentorship (OM, GM, BM) programmes for HASSS, as well as how each of the programmes aids teachers in improving learning outcomes for HASSS in their classrooms. Additionally, teachers were questioned about aspects of the ET and SM courses for HASSS they dislike, challenges to raising academic achievement for HASSS students, and suggestions for teachers having trouble delivering ET and SM to HASSS. The questions' content and face validity were evaluated by the researcher's supervisor and other departmental lecturers.

### **3.5 Procedure for Data Collection**

Visits were made to the chosen schools to get permission from the school administration before gathering data. These visits gave the researchers a chance to talk about the importance of the research and how important it is for instructors and students to work together. Specific dates and hours for data collecting were planned in cooperation with the schools. The researcher trained 10 research assistants to ensure the efficient administration of the study instruments. The selection of these assistants was based on their knowledge with and locality to the study area. The training included trial-and-testing exercises and comprehensive explanations. As a result, the researcher built solid relationships with the study area's students, teachers, and school administrators with the help of these knowledgeable assistants.

After taking the Slosson's Intelligence and High Ability English Language and Mathematics Achievement Screening (HAELMAS) Tests, the respondents were identified as having high ability. These chosen students received all other tests and assessments. The goals and significance of the exercise were described in the instructions, which were read aloud to the responses. The researcher promptly assisted anyone who required detailed clarifications. The respondents were then given time to finish the scales. The completed questionnaires from each participant were collected by the researcher and study assistants. The researcher and the trained assistants went through each to identify any scales that needed to be corrected right away and to alert the specific respondents involved. This method was employed to keep the amount of

incorrect instrument filling to a minimal. The entire process took six weeks to complete.

### **3.5.1 Ethical Consideration**

The researcher's department provided a letter of introduction and approval to perform the research, which was secured and delivered to the Secondary School Education Board in Owerri, Imo State, Nigeria. As a result, the researcher was able to secure the endorsement of the state's commissioner of education. The approved letters were then delivered to the twelve schools chosen from the state's three senatorial districts. No respondent was forced to participate in the survey; participation was entirely voluntary. Everyone who participated provided their written consent. The responders received guarantees that the information they provided would be kept private. The researcher informed the respondents that the instruments were just for research reasons, obligating them to be honest while filling the questionnaire.

### **3.6 Method for Data Analysis**

Descriptive statistics, such as frequency counts and simple percentages, as well as measures of central tendency, like the mean and standard deviation, were used to assess the obtained data. Additionally, inferential statistics with a significance level of 0.05 alpha were used, notably the PPMC and multiple regression. The demographic details of the respondents were examined using descriptive statistics. The combined and relative contributions of the independent factors to the dependent variables were assessed using Multiple Regression Analysis, while the relationships between the independent and dependent variables were evaluated using PPMC. Analyses of qualitative data's content were conducted.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSION**

The analysis' findings are discussed in this chapter along with their outcomes. The findings and their commentary were given as follows:

#### **4.1 Information on Respondents' Demographics**

**Table 4.1: Respondents' Age, Gender, Family Type and Birth Position based on Frequency and Percentage**

S/N	Variable	Labels	Frequency	Percentage
1.	<b>Age</b>	14-16 years	148	55.8
		17-19 years	115	43.4
		20 years and above	2	0.8
		265	265	100.0
2.	<b>Gender</b>	Male	130	49.1
		Female	135	50.9
		Total	265	100.0
3.	<b>Family type</b>	Monogamy	219	82.6
		Polygamy	46	17.4
		Total	265	100.0
4.	<b>Birth position</b>	First born	73	27.5
		Last born	55	20.8
		Others	137	51.7
		Total	265	100.0
<b>Students' Mean Age =16.26; Standard Deviation = 1.18</b>				

Source: Researcher, 2023

Information on age, gender, family type, birth position and are presented in Table 4.1. The computation of respondents' information was done according to frequencies of occurrence and percentage. Table 4.1 showed that 148(55.8%) HASSS who participated in the study were aged 14-16 years, 115(43.4%) are aged 17-19 years, and 2(0.8%) are 20 years and above respectively. It means that respondents aged 14-16 years constitute more than half of the sample. The respondents mean age was 16.26, while their standard deviation was 1.18. Table 4.1 showed that 130(49.1%) HASSS in the study are male and 135(50.9%) are female. It suggests that more female students than male students took part in the study. According to the same Table, 219(82.6%) students were from monogamous family, and 46(17.4%) were from polygamous family. In addition, Table 4.1 showed that 73(27.5%) respondents were first born, 55(20.8%) were last born and 137(51.7%) had other birth position aside from aforementioned.



**Table 4.2: Frequency Distribution of Respondents' Parents' Education, Occupation and Income**

S/N	Variable	Labels	Frequency	Percentage
1.	<b>Fathers' level of education</b>	No formal education Primary education Secondary education OND HND/B.Sc. M.Sc. PhD Total	47 30 99 2 82 3 2 265	17.8 11.3 37.4 0.8 31.0 1.1 0.8 100.0
2.	<b>Mother's level of education</b>	No formal education Primary education Secondary education OND HND/B.Sc. M.Sc. PhD Total	45 25 110 3 75 5 2 265	17.0 9.4 41.5 1.1 28.3 1.9 0.8 100.0
3.	<b>Father's occupation</b>	No response Farming Business/trading Civil servant Artisans Medical personnel Accountant Engineer/Technologist Lawyer/Force Pastor Total	28 18 135 43 15 5 2 4 9 6 265	10.6 6.8 50.9 16.2 5.7 1.9 0.8 1.5 3.4 2.3 100.0
5.	<b>Mother's occupation</b>	No response Farming Business/trading Civil servant Artisans Medical personnel Accountant Engineer/Technologist Lawyer/Force Pastor Total	26 9 146 63 8 9 1 1 1 1 265	9.8 3.4 55.1 23.8 3.0 3.4 0.4 0.4 0.4 0.4 100.0
6.	<b>Parents' monthly income</b>	Less than ₦30,000 Above ₦30,000 Above ₦50,000 Above ₦100,000 Total	49 41 127 48 265	18.5 15.5 47.9 18.1 100.0

Source: Researcher, 2023

Table 4.2 shows that further results on respondents' parents' education, occupation and income level. In the table it is shown that 47(17.8%) respondents' fathers had no formal education, 30(11.3%) had primary education, 99(37.4%) had secondary education, 2(0.8%) had OND, 82(31.0%) had HND/B.Sc., 3(1.1%) had M.Sc., and 2(0.8%) had PhD respectively. Also, Table 4.2 shows that 45(17.0%) respondents' mothers had no formal education, 25(9.4%) had primary education, 110(41.5%) had secondary education, 3(1.1%) had OND, 75(28.3%) had HND/B.Sc., 5(1.9%) had M.Sc., and 2(0.8%) had PhD respectively. Likewise, Table 4.2 revealed that 28(10.6%) respondents' fathers are farmers, 135(50.9%) are businessmen, 43(16.2%) are civil servants, 15(5.7%) are artisans, 5(1.9%) are medical personnel, 2(0.8%) are accountants, 4(1.5%) are engineers/technologists, 9(3.4%) are lawyers/personnel in the force, and 6(2.3%) are clergymen. Table 4.2 showed that 9(3.4%) respondents' mothers are farmers, 146(55.1%) are businesswomen, 63(23.8%) are civil servants, 8(3.0%) are artisans, 9(3.4%) are medical personnel, 1(0.4%) are accountants, engineers/technologists, lawyers/ personnel in the force, and clergy women. Table 4.2 showed that 49(18.5%) respondents' parents' monthly income is less than ₦30,000, 41(15.5%) earn above ₦30,000, 127(47.9%) earn above ₦50,000, and 48(18.1%) earn above ₦100,000 respectively.

## **4.2 Research Questions**

**4.2.1 RQ1a:** What is the level of the TI programme by HASSS in Owerri, Imo State?

**Table 4.3: Level of TI Programme by the Respondents**

S/N	Items	SD	D	A	SA	$\bar{x}$	S.D	Rank
1	Instruction is based on learning needs of HAS and the curriculum.	38 14.3%	31 11.7%	113 42.6%	83 31.3%	2.91	1.000	4th
2	Learning goals are adjusted for students based on their needs	29 10.9%	28 10.6%	135 50.9%	73 27.5%	2.95	0.905	3rd
3	Teachers place emphasis on critical and creative activities for HAS	35 13.2%	69 26.0%	112 42.3%	49 18.5%	2.66	0.928	17th
4	Teachers match HAS to specific informational resources based on their learning needs and abilities.	35 13.2%	63 23.8%	127 47.9%	40 15.1%	2.65	0.893	19 <sup>th</sup>
5	HAS are allowed to advance at own pace and based on readiness levels	30 11.3%	73 27.5%	119 44.9%	43 16.2%	2.66	0.882	18 <sup>th</sup>
6	HAS self-regulate and have a more enjoyable learning environment	26 9.8%	67 25.3%	128 48.3%	44 16.6%	2.72	0.857	15th
7	Variances are accepted as teachers give many ways to show learning	37 14.0%	50 18.9%	121 45.7%	57 21.5%	2.75	0.950	14th
8	HAS have liking for a traditional lesson format, where everyone moves together	40 15.1%	42 15.8%	107 40.4%	76 28.7%	2.83	1.011	10 <sup>th</sup>
9	HAS prefer leveled lessons, where everyone moves on at their own speed	35 13.2%	56 21.1%	102 38.5%	72 27.2%	2.80	0.987	12th
10	Learning at my own pace has made learning mathematics more comfortable	32 12.1%	50 18.9%	105 39.6%	75 29.4%	2.86	0.975	9 <sup>th</sup>
11	Learning at my own pace has made learning English language comfortable	25 9.4%	55 20.8%	127 47.9%	58 21.9%	2.82	0.880	11 <sup>th</sup>
12	Regulating my own levels causes me to feel more motivated to learn	30 11.3%	57 21.5%	123 46.4%	55 20.8%	2.77	0.908	13 <sup>th</sup>
13	If I work hard on level one and progress it makes me feel more proud of myself	22 8.3%	41 15.5%	130 49.1%	72 27.2%	2.95	0.871	2 <sup>nd</sup>
14	Leveled lessons help to alleviate pressure and help me to push myself	28 10.6%	35 13.2%	143 54.0%	59 22.3%	2.88	0.875	7th
15	Leveled lessons motivate me to try very hard because I'm a competitive person.	27 10.2%	36 13.6%	114 43.0%	88 33.2%	2.99	0.937	1 <sup>st</sup>
16	Leveled lessons prevent me from working with her friends.	38 14.3%	86 32.5%	80 30.2%	61 23.0%	2.62	0.993	20 <sup>th</sup>
17	A good understanding of a student's abilities and methods is important for assessing before beginning a topic.	29 10.9%	38 14.3%	136 51.3%	62 23.4%	2.87	0.895	8 <sup>th</sup>
18	In TI, grouping is according to abilities and continuous monitor student progress is welcome.	30 11.3%	60 22.6%	129 48.7%	46 17.4%	2.72	0.882	16th
19	A good assessment strategy for identifying the needs and achievements of students is useful.	21 7.9%	51 19.2%	125 47.2%	68 25.7%	2.91	0.872	5th
20	HAS should be allowed to choose activities based on their interests.	31 11.7%	45 17.0%	109 41.1%	80 30.2%	2.90	0.966	6th
<b>Weighted Mean = 2.81</b>								

**Key: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly agree**

To measure respondents' ratings concerning tiered instruction enrichment programme for HASSS, computation of the descriptive statistics of frequencies, percentages, mean, standard deviation was done and the results are presented in Table 4.3. Going by the result, the weighted mean is 2.81. Also, all the 20 items had mean scores greater than the threshold of 2.50. This means that the measure of tiered instruction enrichment programme among HASSS in Owerri, Imo State is high as against the threshold of 2.50 set in this study. Looking at the table, the highest ranking item is "Leveled lessons motivate me to try very hard because I'm a competitive person." ( $\bar{x} = 2.99$ ). This is followed by the item "Learning goals are adjusted for students based on their needs" ( $\bar{x} = 2.95$ ), "If I work hard on level one and progress it makes me feel more proud of myself" ( $\bar{x} = 2.95$ ), then "Instruction is based on learning needs of HAS and the curriculum" ( $\bar{x} = 2.91$ ), and "A good assessment strategy for identifying the needs and achievements of students is useful in tiered instruction" ( $\bar{x} = 2.91$ ). Next highly rated item is "HAS should be given the opportunities to choose activities based on their interests" ( $\bar{x} = 2.90$ ). The least ranked items in the table were "Teachers match HAS to specific informational resources based on their learning needs and abilities." ( $\bar{x} = 2.65$ ), and "Leveled lessons prevent me from working with her friends." ( $\bar{x} = 2.62$ ).

#### **4.2.2 RQ1b:** What is the level of IS by HASSS in Owerri, Imo State?

**Table 4.4: Level of IS by the Respondents**

S/N	Items	SD	D	A	SA	$\bar{x}$	S.D	Rank
1	IS connects the interests and readiness level of HASSS to essential critical thinking skills.	33 12.5%	32 12.1%	128 48.3%	72 27.2%	2.90	0.940	16 <sup>th</sup>
2	IS demands creative thinking and the making of new notions.	14 5.3%	55 20.8%	141 53.2%	55 20.8%	2.89	0.786	18 <sup>th</sup>
3	IS offers HASSS independence in learning process.	20 7.5%	28 10.6%	146 55.1%	71 26.8%	3.01	0.823	8 <sup>th</sup>
4	IS gives HASSS challenge in the learning process	19 7.2%	41 15.5%	109 41.1%	96 36.2%	3.06	0.896	5 <sup>th</sup>
5	IS provides an opportunity to design my personal learning.	9 3.4%	41 15.5%	133 50.2%	82 30.9%	3.09	0.771	3 <sup>rd</sup>
6	IS gives HASSS positive learning alternative to the regular routine.	17 6.4%	50 18.9%	135 50.9%	63 23.8%	2.92	0.824	15 <sup>th</sup>
7	I feel happy studying my own topic and learning more about it.	6 2.3%	31 11.7%	142 53.6%	86 32.5%	3.16	0.713	1 <sup>st</sup>
8	IS helps me to choose my own area of interest in a study.	13 4.9%	45 17.0%	140 52.8%	67 25.3%	2.98	0.788	10 <sup>th</sup>
9	IS encourages me to place value learning on my own.	12 4.5%	45 17.0%	151 57.0%	57 21.5%	2.95	0.752	13 <sup>th</sup>
10	IS helps me to find and solve a real-world problem.	19 7.2%	30 11.3%	130 49.1%	86 32.5%	3.07	0.850	4 <sup>th</sup>
11	Use of the computer for research makes the self-study interesting.	18 6.8%	31 11.7%	152 57.4%	64 24.2%	2.99	0.795	9 <sup>th</sup>
12	The opportunity to present the results to an audience makes the study factual and significant.	20 7.5%	49 18.5%	134 50.6%	62 23.4%	2.90	0.844	17 <sup>th</sup>
13	HASSS learn a lot by engaging in IS.	20 7.5%	26 9.8%	140 52.8%	79 29.8%	3.05	0.836	6 <sup>th</sup>
14	Engaging in independent study helps me to budget my time well.	25 9.4%	34 12.8%	134 50.6%	72 27.2%	2.95	0.882	12 <sup>th</sup>
15	Independent study can be both challenging and enriching.	22 8.3%	47 17.7%	124 46.8%	72 27.2%	2.93	0.883	14 <sup>th</sup>
16	IS encourages personal choice and subject depth for HASSS.	24 9.1%	37 14.0%	130 49.1%	74 27.9%	2.96	0.885	11 <sup>th</sup>
17	IS facilitates autonomy among students in the selection of content.	31 11.7%	75 28.3%	106 40.0%	53 20.0%	2.68	0.924	20 <sup>th</sup>
18	HASSS is responsible for the direction and outcome of learning.	25 9.4%	46 17.4%	139 52.5%	55 20.8%	2.85	0.859	19 <sup>th</sup>
19	IS provides HASSS feedback and guidance on a challenging task.	12 4.5%	50 18.9%	123 46.4%	80 30.2%	3.02	0.821	7 <sup>th</sup>
20	IS is useful for solving community problems, uncovering new issues.	19 7.2%	27 10.2%	116 43.8%	103 38.9%	3.14	0.872	2 <sup>nd</sup>
<b>Weighted Mean = 2.98</b>								

**Key: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly agree**

To measure respondents' ratings concerning IS for HASSS, computation of the descriptive statistics of frequencies, percentages, mean, standard deviation was done and the results are presented in Table 4.4. Going by the result, the weighted mean is 2.98. Also, all the 20 items had mean scores greater than the threshold of 2.50. This means that the measure of independent study enrichment programme among HASSS in Owerri, Imo State is high as against the threshold of 2.50 set in this study. Looking at the table, the highest-ranking item is "I feel happy studying my own topic and learning more about it" with a level of ( $\bar{x} = 3.16$ ). This is followed by the item "IS is useful for solving community problems, uncovering new issues" ( $\bar{x} = 3.14$ ). Next is "IS provides an opportunity to design my personal learning" ( $\bar{x} = 3.09$ ), then "IS helps me to find and solve a real-world problem" with a level of ( $\bar{x} = 3.07$ ), and "IS provides HASSS challenge in the learning process" ( $\bar{x} = 3.06$ ). Next highly rated item is "HASSS learn a lot by engaging in IS" ( $\bar{x} = 3.05$ ). The least ranked items in the table were "HASSS is responsible for the direction and outcome of learning" ( $\bar{x} = 2.85$ ), and "IS facilitates autonomy among students in the selection of content." ( $\bar{x} = 2.68$ ).

**4.2.3 RQ 1c:** What is the level of one on one SM programme by HASSS in Owerri, Imo State?

**Table 4.5: Level of OM Programme by Respondents**

S/N	Items (My mentor...)	SD	D	A	SA	$\bar{x}$	S.D	Rank
1	Has shared history of his/her life and career with me.	17 6.4%	40 15.1%	158 59.6%	50 18.9%	2.91	0.768	17th
2	Has been encouraging me to prepare for advancement.	19 7.2%	27 10.2%	158 59.6%	61 23.0%	2.98	0.788	13th
3	Encourages me to try new methods in my study.	7 2.6%	22 8.3%	171 64.5%	65 24.5%	3.11	0.651	6th
4	Behaviour is good for me to imitate	10 3.8%	51 19.2%	125 47.2%	79 29.8%	3.03	0.802	11th
5	Has attitude and values regarding education that I agree with.	19 7.2%	24 9.1%	145 54.7%	77 29.1%	3.06	0.817	8th
6	Is someone I respect and admire.	23 8.7%	9 3.4%	137 51.7%	96 36.2%	3.15	0.850	5th
7	Is the one I will like to be like when I reach a similar position	15 5.7%	25 9.4%	147 55.5%	78 29.4%	3.09	0.781	7th
8	Usually demonstrates good listening skills.	10 3.8%	28 10.6%	167 63.0%	60 22.6%	3.05	0.695	18th
9	Has discussed concerns regarding competence with me.	14 5.3%	38 14.3%	170 64.2%	43 16.2%	2.91	0.715	16th
10	Always shares personal experience with me.	17 6.4%	57 21.5%	120 45.3%	71 26.8%	2.92	0.858	14 <sup>th</sup>
11	Encourages me to talk openly about distractions.	14 5.3%	45 17.0%	137 51.7%	69 26.0%	2.98	0.802	20 <sup>th</sup>
12	Often carries and bears feelings discussed with him.	28 10.6%	72 27.2%	111 41.9%	54 20.4%	2.72	0.907	19th
13	Keeps burdens shared with him strictly confidential.	27 10.2%	43 16.2%	127 47.9%	68 25.7%	2.89	0.904	12th
14	Conveys feelings of respect for me as a person.	20 7.5%	25 9.4%	157 59.2%	63 23.8%	2.99	0.798	15 <sup>th</sup>
15	Helps me to meet deadlines in assignments.	25 9.4%	38 14.3%	122 46.0%	80 30.2%	2.97	0.908	1 <sup>st</sup>
16	Demonstrates good interaction and conversation skills.	10 3.8%	26 9.8%	123 46.4%	106 40.0%	3.23	0.775	2 <sup>nd</sup>
17	Enhances my written and oral languages via tasks.	16 6.0%	31 11.7%	110 41.5%	108 40.8%	3.17	0.860	4 <sup>th</sup>
18	Gives me tasks that prepare me for future career.	10 3.8%	36 13.6%	122 46.0%	97 36.6%	3.15	0.795	10 <sup>th</sup>
19	Gives me assignments that present new opportunities.	16 6.0%	27 10.2%	151 57.0%	71 26.8%	3.05	0.782	10th
20	Assigns responsibilities to me that increase my contact with likeminded students.	18 6.8%	29 10.9%	111 41.9%	107 40.4%	3.16	0.873	3rd
<b>Weighted Mean = 3.03</b>								

**Key: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly agree**

To measure respondents' ratings concerning OM programme the descriptive statistics of frequencies, percentages, mean, and standard deviation were computed and the results are presented in Table 4.5. Going by the result, the weighted mean is 3.03. Also, all the 20 items had mean scores greater than the threshold of 2.50. This means that the level of one on one SM programme among HASSS in Owerri, Imo State is high as against the threshold of 2.50 set in this study. From the table, the highest ranking item is the one that reveal that the mentor of HASSS in Owerri, Imo State, "Demonstrates good interaction and conversation skills" with a level of ( $\bar{x}$ =3.23). This is followed by the item "Enhances my written and oral languages via tasks" with a level of ( $\bar{x}$ =3.17). Next is "Assigns responsibilities to me that increase my contact with likeminded students" ( $\bar{x}$ =3.16), then "Is someone I respect and admire" with a level of ( $\bar{x}$ =3.15), and "Gives me tasks that prepare me for future career" ( $\bar{x}$ =3.15). Next highly rated item is "Encourages me to try new methods in my study" ( $\bar{x}$ =3.11). The least ranked items in the table were "Keeps burdens shared with him strictly confidential" ( $\bar{x}$ =2.89), and "Often carries and bears feelings discussed with him" ( $\bar{x}$ =2.72).

#### **4.2.4 RQ 1d:** What is the level of GM programme by HASSS in Owerri, Imo State?



**Table 4.6: Level of GM Programme by Respondents**

S/N	Items	SD	D	A	SA	$\bar{x}$	S.D	Rank
1	Meeting schedule and regularity should be divulged to mentees.	43 16.2%	43 16.2%	144 54.3%	35 13.2%	2.65	0.906	20 <sup>th</sup>
2	My group activities help me in setting appropriate goals.	16 6.0%	17 6.4%	170 64.2%	62 23.4%	3.05	0.734	5 <sup>th</sup>
3	My group activities enhance my academic achievement.	30 11.3%	13 4.9%	141 53.2%	81 30.6%	3.03	0.900	6 <sup>th</sup>
4	GM programme in school help HASSS to build peer relationships.	27 10.2%	21 7.9%	148 55.8%	69 26.0%	2.98	0.866	11 <sup>th</sup>
5	GM programme in school help HAS to build family relationships.	25 9.4%	33 12.5%	129 48.7%	78 29.4%	2.98	0.894	12 <sup>th</sup>
6	GM programme in school help HASSS to resolve conflicts.	21 7.9%	32 12.1%	190 71.7%	22 8.3%	2.80	0.696	19 <sup>th</sup>
7	GM programme in school help HAS learn problem-solving skills.	17 6.4%	43 16.2%	153 57.7%	52 19.6%	2.91	0.780	17 <sup>th</sup>
8	GM help HASSS to discuss personal challenges together	23 8.7%	34 12.8%	133 50.2%	75 28.3%	2.98	0.872	13 <sup>th</sup>
9	GM encourages HASSS use role plays to practice new skills.	9 3.4%	33 12.5%	172 64.9%	51 19.2%	3.00	0.674	9 <sup>th</sup>
10	Mentees and mentors should split their roles to the tune of 50/50.	23 8.7%	43 16.2%	130 49.1%	69 26.0%	2.92	0.876	14 <sup>th</sup>
11	In a group activity, mentees should always decide.	35 13.2%	22 8.3%	136 51.3%	72 27.2%	2.92	0.938	15 <sup>th</sup>
12	In a group activity, mentors should always decide.	14 5.3%	45 17.0%	131 49.4%	75 28.3%	3.01	0.816	8 <sup>th</sup>
13	Having structured activities enhances cohesion in a GM.	19 7.2%	13 4.9%	153 57.7%	80 30.2%	3.11	0.793	3 <sup>rd</sup>
14	Having unstructured activities (such as games, sports) enhances cohesion in a GM.	29 10.9%	38 14.3%	132 49.8%	66 24.9%	2.89	0.906	18 <sup>th</sup>
15	In GM, safe, supportive space for students to talk enhances cohesion.	23 8.7%	20 7.5%	124 46.8%	98 37.0%	3.12	0.884	2 <sup>nd</sup>
16	Incentives such as food, school supplies should be given in GM	17 6.4%	26 9.8%	117 44.2%	105 39.6%	3.17	0.851	1 <sup>st</sup>
17	Mentors should invite guest speakers to present talk in GM.	20 7.5%	37 14.0%	107 40.4%	101 38.1%	3.09	0.904	4 <sup>th</sup>
18	Personal conflicts between mentees can arise in GM.	30 11.3%	33 12.5%	129 48.7%	73 27.5%	2.92	0.922	16 <sup>th</sup>
19	One of two mentee(s) might not actively participate in group tasks.	19 7.2%	30 11.3%	150 56.6%	66 24.9%	2.99	0.807	10 <sup>th</sup>
20	One of two mentee(s) could dominate discussion (drowning out other mentees)	11 4.2%	40 15.1%	148 55.8%	66 24.9%	3.02	0.754	7 <sup>th</sup>
<b>Weighted Mean = 2.98</b>								

**Key: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly agree**

Respondents' ratings concerning GM programme was subjected to descriptive statistics of frequencies, percentages, mean, standard deviation and the results are presented in Table 4.6. Going by the result, the weighted mean is 2.98. Also, all the 20 items had mean scores greater than the threshold of 2.50. This means that the level of group SM programme among HASSS in Owerri, Imo State is high as against the threshold of 2.50 set in this study. From the table, the highest ranking item is the one that reveal that in a school based group mentorship programme, "Incentives such as food, school supplies should be given in GM." with a level of ( $\bar{x} = 3.17$ ). This is followed by the item "In GM, safe, supportive space for students to talk enhances cohesion." with a level of ( $\bar{x} = 3.12$ ). Next is "Having structured activities enhances cohesion in a group mentoring programme" ( $\bar{x} = 3.11$ ), then "Mentors should invite guest speakers to present talk in GM." with a level of ( $\bar{x} = 3.09$ ), and "One of two mentee(s) could dominate discussion (drowning out other mentees)" ( $\bar{x} = 3.02$ ). Next highly rated item is "GM encourages HASSS use role plays to practice new skills." ( $\bar{x} = 3.00$ ). The least ranked items in the table were "Having unstructured activities (such as games, sports) enhances cohesion in a GM" ( $\bar{x} = 2.89$ ), and "Meeting schedule and regularity should be divulged to mentees." ( $\bar{x} = 2.65$ ).

#### **4.2.5 RQ 1e: What is the level of BM by HASSS in Owerri, Imo State?**

**Table 4.7: Level of BM by Respondents**

S/N	Items	SD	D	A	SA	$\bar{x}$	S.D	Rank
1	Books help to promote social values and attitude.	26 9.8%	10 3.8%	186 70.2%	43 16.2%	2.93	0.768	16th
2	Discussing of the therapeutic stages of BM with HASSS is vital.	11 4.2%	47 17.7%	146 55.1%	61 23.0%	2.97	0.758	10th
3	Mentors should find titles of books for students with specific problems.	30 11.1%	17 6.4%	148 55.8%	70 26.4%	2.97	0.885	11 <sup>th</sup>
4	Mentors spend time to encourage us to use books to solve our problems.	17 6.4%	20 7.5%	143 54.0%	85 32.1%	3.12	0.801	3rd
5	Motivating students to read is difficult because of technology.	16 6.0%	37 14.0%	120 45.3%	92 34.7%	3.09	0.851	5th
6	BM makes me familiar with sources to use to find the right book.	14 5.3%	25 9.4%	149 56.2%	77 29.1%	3.09	0.768	4th
7	I use library books (e.g. fiction, picture books, informational).	23 8.7%	18 6.8%	164 61.9%	60 22.6%	2.98	0.802	9th
8	Our mentors read aloud books to HASSS in my school.	9 3.4%	23 8.7%	133 50.2%	100 37.7%	3.22	0.743	2nd
9	Our mentors recommend book(s) to be read by HAS.	22 8.3%	12 4.5%	166 62.6%	65 24.5%	3.03	0.790	8th
10	Giving HASSs the right book can be a complete form of treatment.	11 4.2%	12 4.5%	121 45.7%	121 45.7%	3.33	0.750	1st
11	Mentors establish a reading level before suggesting a book to HASSs	12 4.5%	30 11.3%	181 68.3%	42 15.8%	2.95	0.673	13 <sup>th</sup>
12	Books related to behavioural problems help heal such problems.	22 8.3%	20 7.5%	178 67.2%	45 17.0%	2.93	0.758	17th
13	Putting HASSS on the right track through BM is helpful.	22 8.3%	20 7.5%	170 64.2%	53 20.0%	2.96	0.780	12th
14	BM ensures that HASSS gain the most from the learning process.	16 6.0%	32 12.1%	173 65.3%	44 16.6%	2.92	0.724	18th
15	Familiarity with HASSs' concern before suggesting a book is useful.	24 9.1%	27 10.2%	165 62.3%	49 18.5%	2.90	0.801	19th
16	Mentors of HASSS should suggest one specific book at time.	14 5.3%	34 12.8%	143 54.0%	74 27.9%	3.05	0.787	7th
17	Discussion should occur after a book has been read by HASSS.	22 8.3%	28 10.6%	155 58.5%	60 22.6%	2.95	0.815	14th
18	BM destroys the pleasures normally derived from reading literature.	19 7.2%	39 14.7%	159 60.0%	48 18.1%	2.89	0.778	20th
19	Mentors of HASSS should suggest books at HASSS of interest to them.	25 9.4%	22 8.3%	159 60.0%	59 22.3%	2.95	0.827	15th
20	Mentors should determine if a book is suitable to facilitate development of high ability students.	20 7.5%	15 5.7%	160 60.4%	70 26.4%	3.06	0.789	6th
<b>Weighted Mean = 3.02</b>								

**Key: 1= Strongly Disagree, 2= Disagree, 3= Agree, 4= Strongly agree**

Respondents' ratings concerning bibliotherapy mentorship programme was subjected to descriptive statistics of frequencies, percentages, mean, standard deviation and the results are presented in Table 4.7. Going by the result, the weighted mean is 3.02. Also, all the 20 items had mean scores greater than the threshold of 2.50. This means that the level of group SM programme among HASSS in Owerri, Imo State is high as against the threshold of 2.50 set in this study. From the table, the highest ranking item is the one that reveal that when using bibliotherapy mentorship programme, "Giving HASs the right book can be a complete form of treatment." with a level of ( $\bar{x} = 3.33$ ). This is followed by the item "Our mentors read aloud books to HAS in my school" with a level of ( $\bar{x} = 3.22$ ). Next is "Our mentors spend a lot time to encourage us to use books to solve our problems" ( $\bar{x} = 3.12$ ), then "Motivating students to read is difficult because of technology" with a level of ( $\bar{x} = 3.09$ ), and "BM makes me familiar with sources to use to find the right book" ( $\bar{x} = 3.09$ ). Next highly rated items are "Mentors should determine if a book is suitable to facilitate development of HASs" ( $\bar{x} = 3.06$ ) and "Mentors of HASs should suggest one specific book at time" with a level of ( $\bar{x} = 3.05$ ). The least ranked items in the table were "BM destroys the pleasures normally derived from reading literature" ( $\bar{x} = 2.89$ ), and "Familiarity with HASs' concern before suggesting a book is useful" ( $\bar{x} = 2.90$ ).

Further details on the levels of the independent variables: TI, IS, OM, GM and BM among HASSS in Owerri, Imo State is presented in Table 4.8. There are 20 items in each of the scales that were used to measure each independent variable: TI, IS, OM, GM and BM among HASSS in Owerri, Imo State. To compute the test of norm, each of the 20 items were multiplied with the four points on the modified Likert scale. This number that is 4 multiplied by 20 gave rise to a score of 80. The division of 80 by 2 (High and Low) equals 40. Thus, 0-40 indicates that low level of each independent variable among HASSS in Owerri, Imo State, and the scale between 41 and 80 signifies that the level of each independent variable among HASSS in Owerri, Imo State is high.

**4.2.6 RQ 2a:** What is the relationship between ET programmes (TI and IS) and academic achievement among HASSS in Owerri, Imo State?

**Table 4.8 Zero Order Correlation showing the Relationship between ET (TI and IS) and Academic Achievement of HASSS**

	<b>Academic achievement</b>	<b>Tiered instruction</b>	<b>Independent study</b>
<b>Academic achievement</b>	1		
<b>Tiered instruction</b>	.285*	1	
<b>Independent study</b>	.254*	.427*	1
<b>Mean (<math>\bar{x}</math>)</b>	70.98	56.21	59.52
<b>S.D</b>	8.398	9.564	7.764

\* Correlation is significant at the 0.05 level

Table 4.8 shows the relationship that exists between ET programmes (tiered instruction and independent study) and academic achievement of HASSS. The mean of academic achievement is 70.98, the standard deviation of academic achievement is 8.398, the mean of tiered instruction enrichment programme is 56.21, while the standard deviation of tiered instruction is 9.564, and the mean of independent study enrichment programme is 59.52, while the standard deviation of independent study enrichment programme is 7.764. The result indicates that HASSS' academic achievement positively correlated with TI programme ( $r=.285$ ) and independent study ( $r=.254$ ). This implies that ET programmes (TI and IS) had significant relationship with HASSS' academic achievement.

**4.2.7 RQ 2b:** What is the relationship between ET programmes (TI and IS) and academic adjustment among HASSS in Owerri, Imo State?

**Table 4.9: Zero Order Correlation Showing the Relationship between ET (TI and IS) and Academic Adjustment of HASSS**

	<b>Academic adjustment</b>	<b>Tiered instruction</b>	<b>Independent study</b>
<b>Academic adjustment</b>	1		
<b>Tiered instruction</b>	.024	1	
<b>Independent study</b>	.088	.427*	1
<b>Mean (<math>\bar{x}</math>)</b>	76.48	56.21	59.52
<b>S.D</b>	10.492	9.564	7.764

\* Correlation is significant at the 0.05 level

Table 4.9 shows the relationship that exists between ET programmes (tiered instruction and independent study) and academic adjustment of HASSS. The mean of academic adjustment is 76.48, the standard deviation of academic achievement is 10.492, the mean of tiered instruction enrichment programme is 56.21, while the standard deviation of tiered instruction is 9.564, and the mean of IS programme is 59.52, while the standard deviation of IS programme is 7.764. The result indicates that HASSS' academic adjustment does not have a significant correlation with TI ( $r=.024$ ) and IS ( $r=.088$ ). This implies that ET programmes (TI and IS) do not have a remarkable relationship with HASSS' academic adjustment.

**4.2.8 RQ 3a:** What is the relationship between SM programmes (OM, GM and BM) and academic achievement among HASSS in Owerri, Imo State?



**Table 4.10: Zero Order Correlation Showing the Relationship between SM and Academic Achievement of HASSS**

	<b>Academic achievement</b>	<b>OM</b>	<b>GM</b>	<b>BM</b>
<b>Academic achievement</b>	1			
<b>OM</b>	.214*	1		
<b>GM</b>	.191*	.368*	1	
<b>BM</b>	.211*	.372*	.689*	1
<b>Mean (<math>\bar{x}</math>)</b>	70.98	60.53	59.54	60.30
<b>S.D</b>	8.398	8.637	8.686	7.682

\* Correlation is significant at the 0.05 level

Table 4.10 shows the relationship that exists between SM programmes (one on one mentorship, group SM and bibliotherapy) and academic achievement of HASSS. The mean of academic achievement is 70.98, the standard deviation of academic achievement is 8.398, the mean of one-on-one mentorship programme is 60.53, while the standard deviation of tiered instruction is 8.637, and the mean of GM programme is 59.54, while the standard deviation of GM programme is 8.686. The result indicates that HASSSs' academic achievement positively correlated significantly with OM ( $r=.21$ ), group SM ( $r=.19$ ) and bibliotherapy SM ( $r=.21$ ). This implies that SM programmes (one on one SM, group SM and bibliotherapy SM) had remarkable relationship with HASSS' academic achievement.

**4.2.9 RQ 3b:** What is the relationship between SM programmes (OM, GM and BM) and academic adjustment among HASSSs in Owerri, Imo State?

**Table 4.11: Zero Order Correlation Showing the Relationship between SM and Academic Adjustment of HASSS**

	<b>Academic adjustment</b>	<b>One on one SM</b>	<b>Group SM</b>	<b>Bibliotherapy SM</b>
<b>Academic adjustment</b>	1			
<b>One on one SM</b>	.130*	1		
<b>Group SM</b>	.393*	.368*	1	
<b>Bibliotherapy SM</b>	.489*	.372*	.689*	1
<b>Mean (<math>\bar{x}</math>)</b>	76.48	60.53	59.54	60.30
<b>S.D</b>	10.492	8.637	8.686	7.682

\* Correlation is significant at the 0.05 level

Table 4.11 shows the relationship that exists between ET programmes (tiered instruction and independent study) and academic adjustment of HASSSs. The mean of academic adjustment is 76.48, the standard deviation of academic achievement is 10.492, the mean of one on one SM programme is 60.53, while the standard deviation of one on one SM programme is 8.637, and the mean of group SM programme is 59.54, while the standard deviation of group SM programme is 8.686. The mean of bibliotherapy SM programme is 60.30 and the standard deviation of bibliotherapy SM programme is 7.682. The result indicates that HASSSs' academic achievement positively significantly correlated with one on one SM ( $r=.13$ ), group SM ( $r=.39$ ) and bibliotherapy SM ( $r=.49$ ). This implies that SM programmes (one on one SM, group SM and bibliotherapy SM) had significant relationship with HASSS' academic adjustment. That is, these factors influenced HASSS' academic adjustment.

**4.2.10 RQ 4a:** What is the contribution (joint) of the IVs (TI, IS, OM, GM, and BM) to academic achievement of HASSS in Owerri, Imo State?

**Table 4.12: Summary of Regression Analysis Showing the Joint Contribution of the Independent Variables to Academic Achievement of HASSS**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>			
.378	.143	.126	7.84956			
<b>A N O V A</b>						
<b>Model</b>	<b>Sum of Squares</b>	<b>DF</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	<b>Remark</b>
Regression	2662.518	5	532.504	8.642	.000	Sig.
Residual	15958.422	259	61.616			
Total	18620.940	264				

Table 4.12 presents a summary of the regression analysis assessing the combined impact of independent variables (tiered instruction, independent study, one-on-one SM, group SM, and bibliotherapy) on the academic achievement of HASSS. The results reveal that when these independent variables are considered together, they collectively exert a significant influence on the academic achievement of HASSS ( $F(5; 259) = 8.642$ ; Adj.  $R^2 = .126$ ;  $p < .05$ ). This signifies that when taken as a whole, the independent variables substantially contribute to the dependent variable. The table also displays a coefficient of multiple correlation ( $R$ ) of .378, a multiple  $R^2$  of .143, and an adjusted  $R^2$  of .126. These values indicate that when all five predictor variables are considered simultaneously, they account for 12.6% of the variation in the academic achievement of HASSS. The statistical significance of this collective contribution was tested at  $\alpha = 0.05$ . Furthermore, the analysis of variance for the regression yielded an F-ratio of 8.642, which is significant at the 0.05 level. Consequently, the joint contribution of the independent variables to the dependent variable was deemed significant, suggesting that any remaining variance of 84.4% not explained by this model might be attributed to other unaccounted factors and residuals.

**2.2.11 RQ 4b:** What is the contribution (joint) of the IVs (TI, IS, OM, GM, and BM) to academic adjustment of HASSS in Owerri, Imo State?

**Table 4.13: Summary of Regression Analysis Showing the Joint Contribution of the Independent Variables on Academic Adjustment of HASSS**

<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std. Error of the Estimate</b>			
.500	.250	.235	9.17467			
<b>A N O V A</b>						
<b>Model</b>	<b>Sum of Squares</b>	<b>DF</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	<b>Remark</b>
Regression	7260.870	5	1452.174	17.252	.000	Sig.
Residual	21801.221	259	84.175			
Total	29062.091	264				

The results of the regression analysis that evaluated the combined effects of the independent variables (TI, IS, OM, GM, and BM) on the academic adjustment of HASSS are summarised in Table 4.13. The findings show that these independent variables have a substantial impact on the academic adjustment of the HASSS when taken as a whole ( $F(5; 259) = 17.252$ ; Adj.  $R^2 = .235$ ;  $p < .05$ ). This shows that the independent variables' combined impact on the dependent variable is truly noteworthy. Additionally, the table shows a multiple correlation coefficient ( $R$ ) of .500, a multiple  $R^2$  of .250, and an adjusted  $R^2$  of .235. According to these numbers, the five predictor variables together account for 23.5% of the variance in the academic adjustment of the HASSS. At  $\alpha = 0.05$ , the statistical significance of this group's contribution was evaluated. Additionally, the regression's analysis of variance produced an F-ratio of 17.252, which is significant at the 0.05 level. As a result, it was determined that the combined contribution of the independent variables to the dependent variable was substantial, indicating that any 76.5% of the variation that this model was unable to account for may be attributed to residuals and other unaccounted factors.

**4.2.12 RQ 5a:** What is the contribution (relative) of the IVs (TI, IS, OM, GM, and BM) to academic achievement of HASSS in Owerri, Imo State?



**Table 4.14: Summary of Regression Analysis Showing the Relative Contribution of the Independent Variables to Academic Achievement of HASSS**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig. p
	B	Std. Error	Beta Contribution		
(Constant)	37.885	5.273		7.185	.000
Tiered instruction	.199	.056	.227	3.536	.000
Independent study	.097	.074	.090	1.316	.189
One on one SM	.089	.064	.091	1.382	.168
Group SM	.057	.078	.059	0.732	.465
Bibliotherapy SM	.122	.088	.111	1.374	.171

Table 4.14 shows the summary of relative contribution of the independent variables (tiered instruction, independent study, one on one SM, group SM and bibliotherapy) to academic achievement of HASSS. The result indicates that only tiered instruction ( $\beta = .227$ ) made significant individual contribution to academic achievement of HASSS. The other factors namely: independent study ( $\beta = .090$ ), one on one SM ( $\beta = .091$ ), group SM ( $\beta = .059$ ) and bibliotherapy SM ( $\beta = .111$ ) did not contribute significantly to academic achievement of HASSSs. The result also indicates that tiered instruction enrichment programme (Beta = .227) had the strongest prediction power because it had the highest beta weighted value, followed by bibliotherapy SM (Beta = .111), one on one SM (Beta = .091), independent study (Beta = .090) and group SM (Beta = .059).

**4.2.13 RQ 5b:** What is the contribution (relative) of the IVs (TI, IS, OM, GM, and BM) to academic adjustment of HASSS in Owerri, Imo State?

**Table 4.15: Summary of Regression Analysis Showing the Relative Contribution of Independent Variables to Academic Adjustment of HASSS**

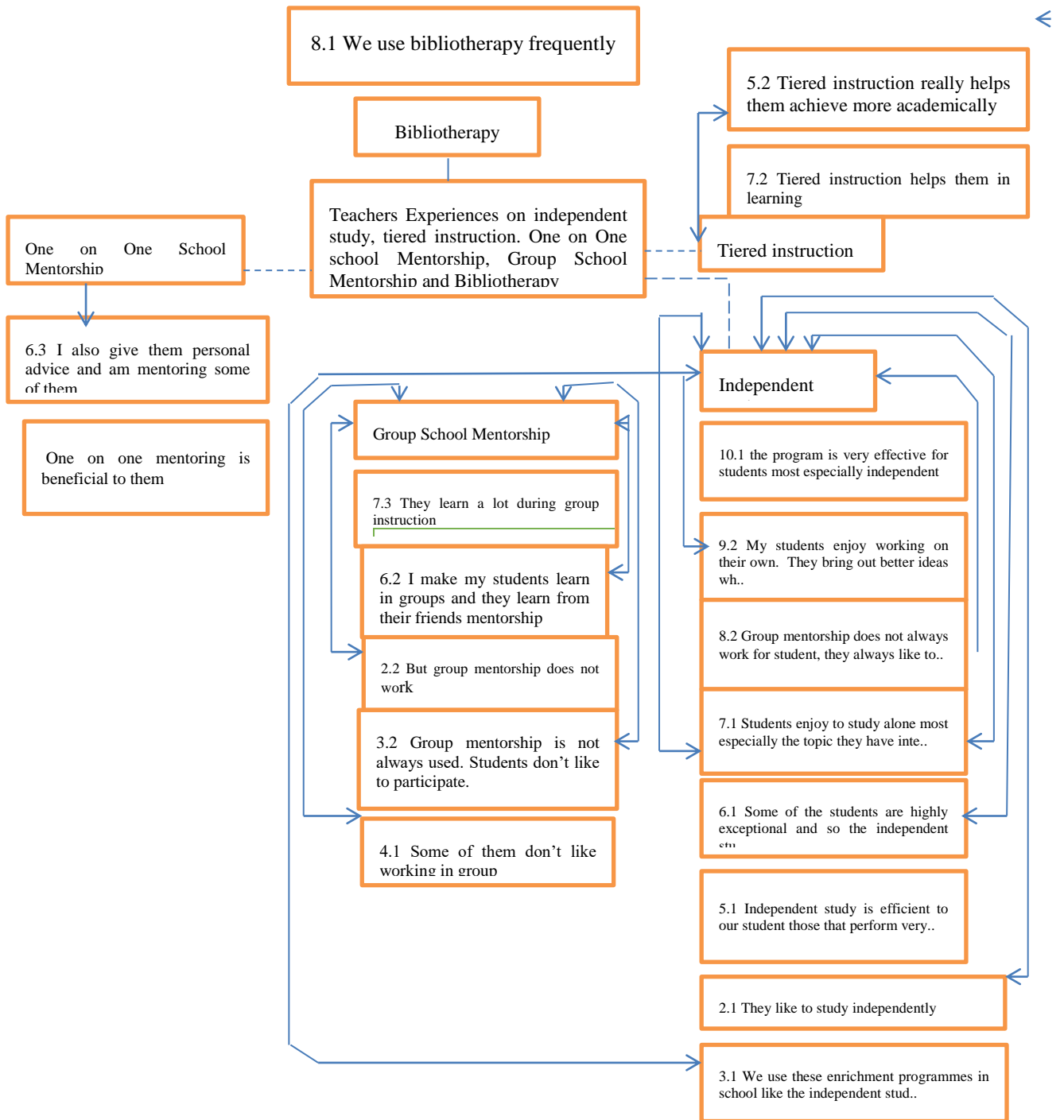
Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig. p
	B	Std. Error	Beta Contribution		
(Constant)	37.463	6.163		6.078	.000
Tiered instruction	-.006	.066	-.005	-.088	.930
Independent study	.012	.086	.009	.141	.888
One on one SM	-.096	.075	-.079	-1.278	.202
Group SM	.148	.092	.123	1.616	.107
Bibliotherapy SM	.590	.103	.432	5.711	.000

Table 4.15 shows the analysis the relative contribution of the independent variables (tiered instruction, independent study, one on one SM, group SM and bibliotherapy) to academic adjustment of HASSS. The result indicates that tiered instruction ( $\beta = -.005$ ), independent study ( $\beta = .009$ ), one on one SM ( $\beta = -.079$ ), group SM ( $\beta = .123$ ) individually did not contribute to academic adjustment of HASSSs. It is however revealed that only bibliotherapy SM ( $\beta = .432$ ) had individual effect on academic adjustment of HASSS. That is, there is an indication that bibliotherapy SM programme (Beta =.432) had the strongest prediction power because it had the highest beta weighted value, followed by group SM (Beta = .123), one on one SM (Beta = .079), independent study (Beta =.009) and tiered instruction (Beta = -.005). This implies that bibliotherapy SM is the variable that could independently and significantly predict academic adjustment of HASSS in the study.

### **4.3 Content-Analysis of In-Depth Interview of Techers**

#### **4.3.1 Teachers' experiences on IS, TI, OM, GM and BM**

The teachers shared their various experiences on the independent variables: IS, TI, OM, GM and BM.



**Figure 4.1:** Teachers' experiences on IS, TI, OM, GM and BM

**Independent Study:** Teacher 3 expressed his joy with the IS by sharing little of his experience when he said *the programme is very effective for students' most especially independent study* (**In-depth interview, Okigwe, Male 2023**). Teacher 1 with a smiling face also affirmed this when he said, *my students enjoy working on their own. They bring out better ideas when you allow them to do their work on their own* (**In-depth interview, Okwelle, Male 2023**). Another teacher from stressed the importance of the IS by saying, *the programme is good for students and it works for students that are very intelligent. They like to study independently* (**In-depth interview, Ehime Mbanjo, Female 2023**). She was supported by teacher 6 who said *some of the students are highly exceptional and so the independent study is used for them* (**In-depth interview, Isiala Mbanjo, Male 2023**). Teacher 9 concluded this by saying, *independent study is efficient to the students especially those that perform very high in the class. They enjoy activities that make them work on their own without much supervision* (**In-depth interview, Ikenegbu Owerri, Female 2023**). All of these results highlight the value of independent learning, which is an essential element of enrichment programmes meant to enable students to gain knowledge independently, without the need for outside direction. Independent learners take charge of their own education, actively seeking out knowledge, selecting what to study, organising their time for assignments, and successfully completing their learning goals within predetermined time frames.

**Tiered Instruction:** According to the different learning needs of different students, different tiers or levels of teaching are created for a particular class or activity. Some of the teachers who were given the opportunity to share their experiences with regard to this enrichment program were of the general view that, tiered instruction helps students academically. For instance, teacher 5 mentioned that *tiered instruction really helps them achieve more academically* (**In-depth interview, Nkwere, Male 2023**). He was supported by teacher 1 who said assertively that *tiered instruction helps them in learning* (**In-depth interview, Okwelle, Male 2023**). This is so that students have the opportunity to receive teaching tailored to their particular requirements through tiered instruction. This could improve student engagement and encourage a growth mentality. Students are more likely to feel motivated and take charge of their own learning when they feel that their learning needs are being met and the material is adequately challenging without being overly difficult.

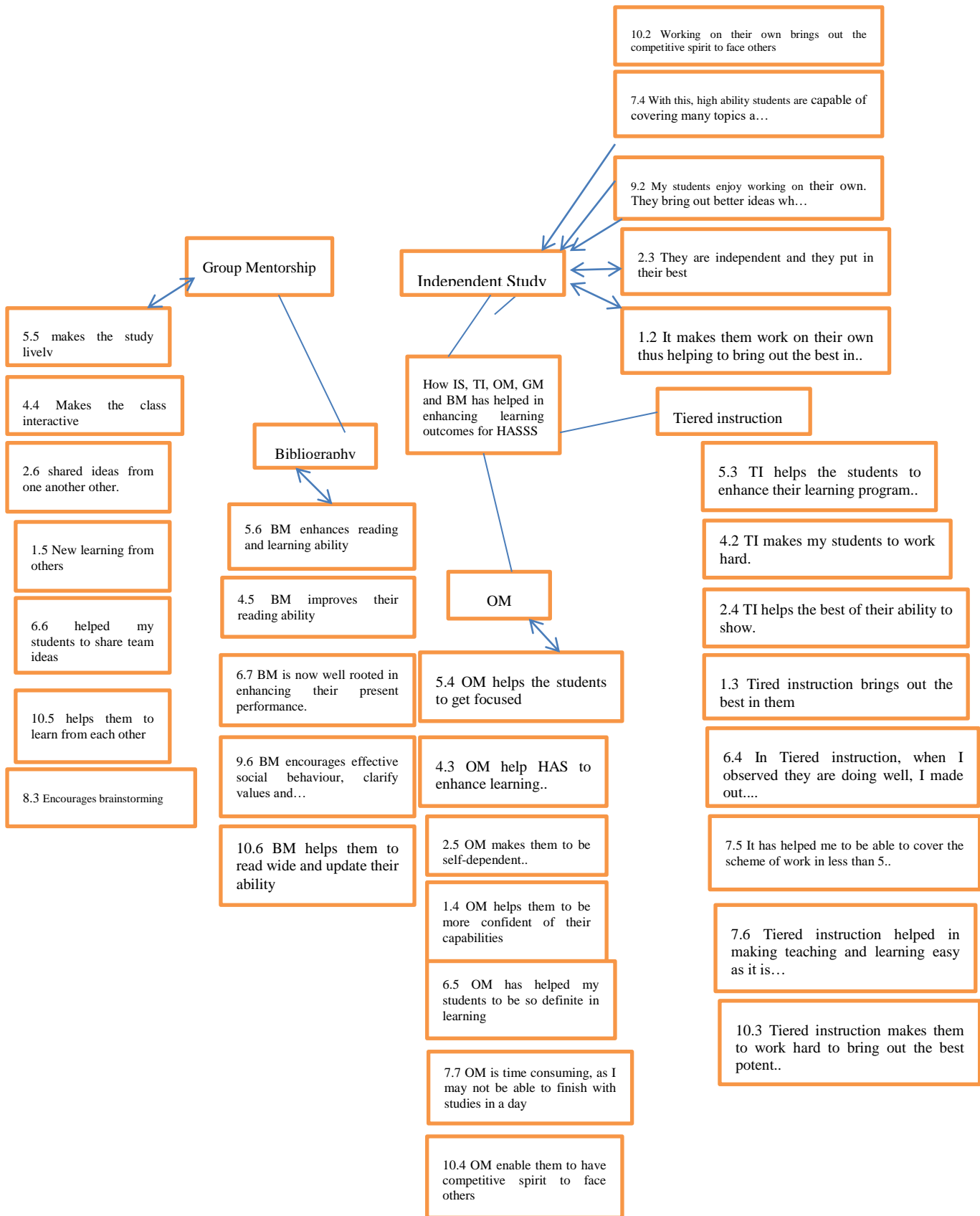
**Group School Mentorship:** Teacher 8 after looking down mentioned that *group mentorship does not always work for HAS students. They always like to work alone without disturbance* (In-depth interview, Obowo, Male 2023) Teacher 1 was also negative on the use of group school mentorship by saying *group mentorship is not always used. Students don't like to participate* (In-depth interview, Owerri, Male 2023). Nevertheless, teacher 5 was positive on the use of group school mentorship programme, she stated *I make my students learn in groups and they learn from their friends most times* (In-depth interview, Isiala Mbano, Male 2023). Group mentoring brings together students and teachers that may or may not have connections and lets them learn together. It is likely that in the course of the interaction some students may express lukewarm attitude or certain negative behaviours that may mar their academic progress or the aim of the programme.

**One on One School Mentorship:** In one-on-one mentoring (OM), just one mentor and one mentee are involved in the relationship. Although this isn't always the case, often the mentor has more years of experience and is more senior in the industry than the mentee. Teacher 5 mentioned that *one on one mentorship is beneficial to the students* (In-depth interview, Aboh Mbaise, Female 2023). She wasn't alone, teacher 7 also expressed his joy on the use of this approach, she said *I also give them personal advice and I'm mentoring some of them* (In-depth interview, Isiala Mbano, Female 2023). OM is beneficial because it gives room for personalised attention, better trust and understanding.

**Bibliotherapy:** Teacher 5 also shared his experience on the use of bibliotherapy enrichment approach. He said calmly that *we use bibliotherapy frequently* (In-depth interview, Obowo, Male 2023). Bibliotherapy is a type of creative arts therapy that combines reading specific literature and sharing stories. As a therapeutic strategy, it makes use of the connections pupils have with the information found in books, poetry, and other written works.

#### **4.3.2 Impact of TI, IS, OM, GM and BM on Enhancing Learning Outcomes for HASSS**

The result of the analysis shows how TI, IS, OM, GM and BM have helped in enhancing learning outcomes for HASSS.



**Figure 4.2: Impact of TI, IS, OM, GM and BM on Enhancing Learning Outcomes for HASSS**



**Tiered Instruction:** Teacher 5 with a smile on his face attested on how TI approach has helped his students. He said *it allows students to work with appropriately challenging tasks* (In-depth interview, Okwelle, Male 2023). It is generally understood that difficulties aid in personal development. They are the foundation of a developing attitude. Without difficulties, students are deprived of chances to try new things, fail, and then succeed again. The way Dweck defines progress is essential for fostering a growth mentality. Teacher 1 supported this when he also mentioned that *Tiered Instruction makes them to work hard to bring out the best potential in them* (In-depth interview, Okigwe, Male 2023) In addition, Teacher 5 expressed that *Tiered instruction brings out the best in the students* (In-depth interview, Okwelle, Male 2023). Teacher 4 concluded that *Tiered Instruction helps the students to enhance their learning programme* (In-depth interview, Ikenegbu Owerri, Female 2023).

**One on One School Mentorship:** The importance of OM cannot be overemphasised. Teacher 5 affirmed this by saying *In one-on-one school mentorship, the majority of students are favoured in this strategy, it create a personal relationship with mentor and mentee. It also provides individualized support for the mentee* (In-depth interview, Okwelle, Male 2023). This is so that mentorship might potentially affect the growth of young brains who are just beginning their journeys of self-discovery. It has been shown to be successful in increasing students' academic performance and overall wellbeing in senior secondary school. Attendance and academic performance are improved when there is someone at school you can confide in, trust, and feel cared for by. Teacher 8 supported this from her comment by saying *one-on-one school mentorship helps them to be more confident of their capabilities* (In-depth interview, Aboh Mbaise, Female 2023). Teacher 1 was not left out, he mentioned that *One-on-one school mentorship enables HASSS to have competitive spirit to face others* (In-depth interview, Okwelle, Male 2023). And teacher 5 mentioned that, *One-on-one school mentorship makes HASSS to be self-dependent* (In-depth interview, Ahaira, Male 2023)

**Bibliotherapy:** Teacher 4 mentioned that *Bibliotherapy encourages effective social behaviour, clarify values and instils cultural identity* (In-depth interview, Okwelle, Male 2023). By relating their own experiences to those of characters who go through comparable hardships, it helps HASSS to cultivate good emotions, generate a sense of

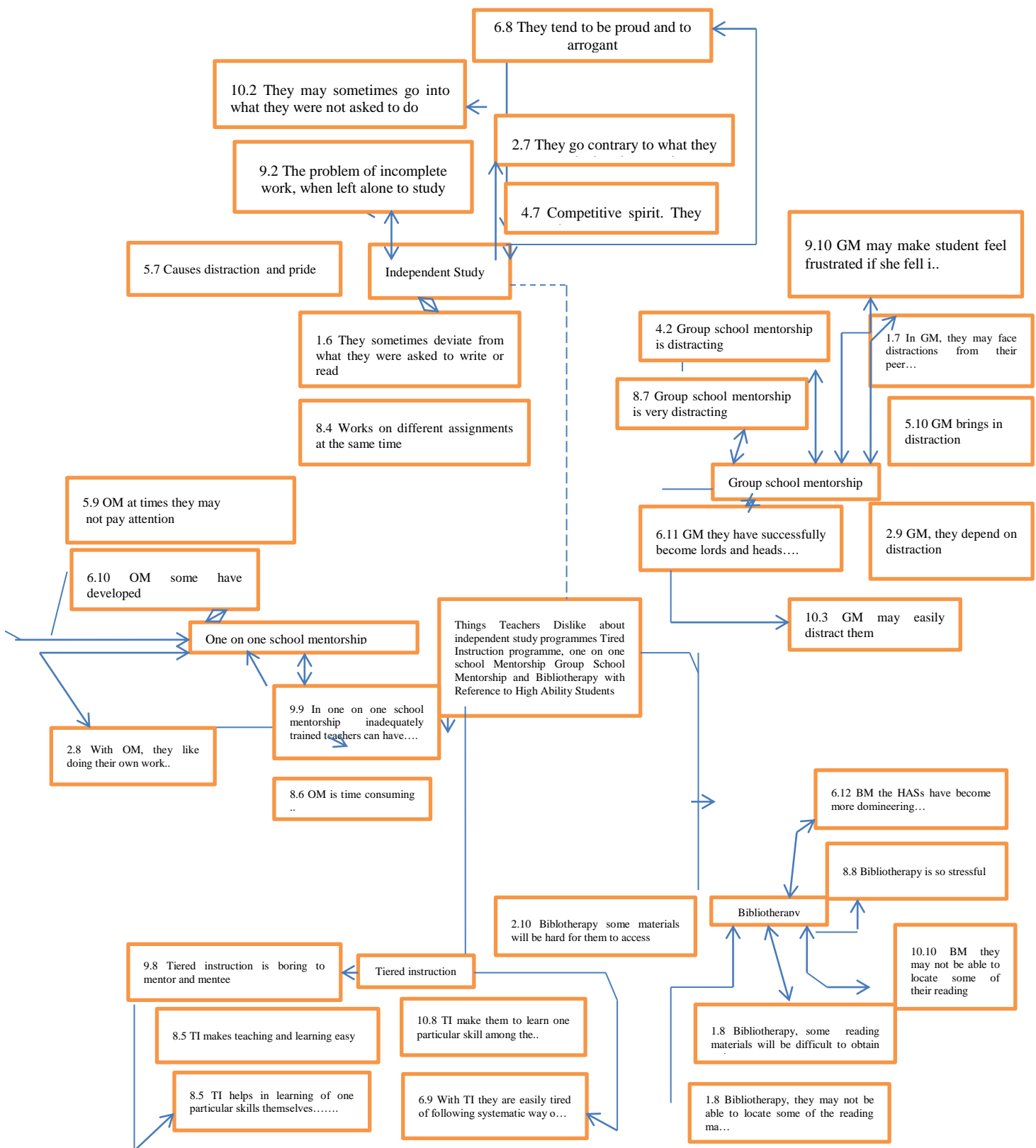
connection, and develop resilience. Students can learn important lessons for their own life from how these characters handle challenging circumstances and unpleasant emotions. Teacher 8 added that *bibliotherapy helps HASSS to read wide and update their ability* (In-depth interview, Okigwe, Male 2023). And teacher 6 supported that *Bibliotherapy helps to improve their reading ability* (In-depth interview, Ehime Mbano, Female 2023). *Bibliotherapy enhances reading and learning ability* . (In-depth interview, Ikenegbu Owerri, Male 2023).

**Group Mentorship:** With regards to how GM has helped to enhance students learning outcomes, teacher 3 mentioned that *GM helps to keep track of HASSS's learning and a source of idea for curriculum development* (In-depth interview, Okwelle, Male 2023). Teacher 7 added that *GM helps them to learn from each other* (In-depth interview, Okigwe, Male 2023). Teacher 4 also mentioned that *GM helps them learn from others in the group* (In-depth interview, Ahiara, Male 2023). Teacher 1 concluded that *GM makes the study lively* (In-depth interview, Ehime Mbano, Female 2023). In GM, different learners can express their individual viewpoints and views about a subject, opening up possibilities for fresh discussions. The many viewpoints enable both mentors and mentees to learn about and appreciate new perspectives.

**Independent Study:** In the aspect of independent study, Teacher 5 mentioned that, *Working on their own brings out the competitive spirit to face other students* (In-depth interview, Okigwe, Male 2023). Teacher 8 also added that, *It makes them work on their own thus helping to bring out the best in them* (In-depth interview, Aboh Mbaise, Female 2023). And Teacher 1 concluded that, *They are independent and they put in their best* (In-depth interview, Ahiara, Male 2023). Independent learning is essential because it helps students to discover new ideas, knowledge and helps them boost their imagination and creativity. It also helps in the students in the aspect of self-discovery.

#### **4.3.3 Things Teachers Dislike about IS, TI, OM, GM and BM with Reference to HASSS**

We all have little things that really annoy us in every aspect of life. Below is a graphical presentation on some of the things teachers dislike about IS, TI, OM, GM and BM with reference to HASSS.



**Figure 4.3: Things teachers dislike about IS, TI, OM, GM and BM with reference to HASSS**

**Tiered Instruction:** With regards to TI, some teachers were not too excited with the programme. For instance, Teacher 4 mentioned that, *HASSS are easily tired of following systematic way of instruction* (**In-depth interview, Isiala Mbano, Male 2023**). This is because there is a potential for exhaustion, as these students can be in constant interaction in an unnatural way with the teachers. Teacher 7 supported this by saying that *the students are easily tired of following systematic way of instructions* (**In-depth interview, Nkwere, Male 2023**). Teacher 5 also mentioned his dissatisfaction that *Tiered Instruction may make the HASSS to learn one particular skill* (**In-depth interview, Ikenegbu Owerri, Male 2023**).

**One on One School Mentorship:** In the aspect of OM, teacher 2 said assertively that *students like doing their own work without involving others* (**In-depth interview, Ahiara, Male 2023**). Teacher 8 added that, *OM is time consuming* (**In-depth interview, Obowo, Male 2023**). For instance, situations where the mentor feels like the mentee isn't progressing quickly or seems unable or unwilling to accept their advice might result in irritation. In a similar vein, if the mentee feels they are not getting the guidance they need, they may also become frustrated.

**Group school mentorship:** In the aspect of GM, teacher 4 with displeasure in her face mentioned that *Group school mentorship brings in distraction* (**In-depth interview, Ikenegbu, Owerri, Female 2023**). Teacher 6 supported this by also saying that *Group school mentorship is very distracting* (**In-depth interview, Obowo, Male 2023**). Teacher 4 concluded by saying *Group school mentorship, they have successfully become lords and heads overshadowing others* (**In-depth interview, Isiala Mbano, Male 2023**). It also requires a mentor to understand group dynamics in order to be successful.

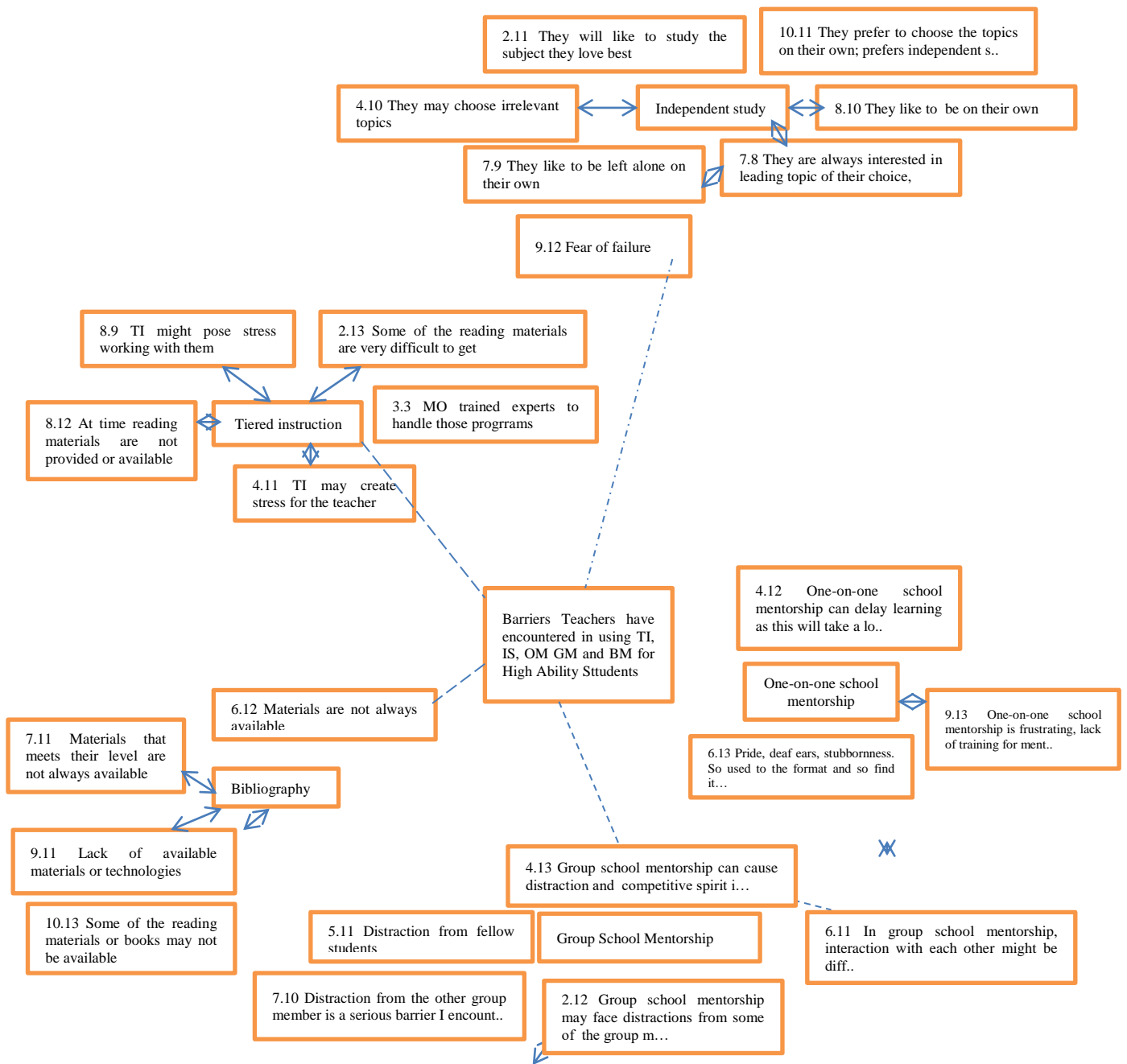
**Bibliotherapy:** In the aspect of bibliotherapy, teacher 3 mentioned that *some materials will be hard for the students to access* (**In-depth interview, Ahiara, Male 2023**). This is because bibliotherapy makes use of books or other literatures to help students resolve or manage their issues. In situations where access to books becomes a problem, the goal of this approach will be defeated. Also, teacher 5 observed that *the HASSS will become more domineering than those with low abilities* (**In-depth interview, Isiala Mbano, Male 2023**). Hence, this will also serve as a discouraging factor to some students.

**Independent Study:** Teacher 6 expressed his dissatisfaction on the use of independent study, he mentioned that, *the students go contrary to what they were asked to do sometimes* (**In-depth interview, Ahiara, Male 2023**). Teacher 4 also reasoned along this direction, he mentioned that *they sometimes deviate from what they were asked to write or read* (**In-depth interview, Aboh Mbaise, Female 2023**). Also, teacher 1 after looking down mentioned that, *they tend to be proud and so arrogant. Some have become stubborn* (**In-depth interview, Isiala Mbano, Male 2023**). This may likely be linked to the fact that, some students may feel they have known it all even more than their mentors.

#### **4.3.4 Barriers Teachers Have Encountered in Using IS, TI, OM, GM and BM for Improving Academic Achievement and Adjustment of HASSS**

There is no good approach to learning that doesn't have challenges.

A graphical presentation of teachers' views on some barriers they have encountered using IS, TI, OM, GM and BM for improving the academic achievement and adjustment of HASSS is shown in Figure 4.4.



**Figure 4.4: Barriers teachers have encountered in using IS, TI, OM, GM and BM for HASSS**

**Independent Study:** Teacher 5 noted that *the appropriate teaching materials and computer technologies necessary for conducting independent study are lacking in the schools* (**In-depth interview, Nkwere, Male 2023**). He also lamented on the behaviours of some of the students. He stated that *they will like to study the subject they love best* (**In-depth interview, Nkwere, Male 2023**). This is regardless of what the mentor feels is best for them. Teacher 3 also expressed his regret while still supporting the other teacher's view that *some students may choose irrelevant topics* (**In-depth interview, Ehime Mbanjo, Female 2023**)... That is, they choose topics that may not be relevant to them at that particular time. Additionally, Teacher 6 mentioned that *they love to choose the topics they prefer to study* (**In-depth interview, Aboh Mbaise, Female 2023**). And this may bring up issues between them and their mentors.

**One on one School Mentorship:** There is a general saying that pride goes before a fall. It hinders most students from fulfilling and achieving their dreams. Teacher 6 after looking up voiced out sorrowfully that, *pride, deaf ears, stubbornness* (**In-depth interview, Aboh Mbaise, Female 2023**). From his countenance it was obvious that he was talking from experience. This can also mean conceit or arrogance on the part of the students and failure to take instructions may bring issues between the mentor and the mentee.

**Group School Mentorship:** There are distractions everywhere, Teacher 3 stated that *group school mentorship may face distractions from some of the group members* (**In-depth interview, Ahiara, Male 2023**). Teacher 6 supported this when he said *group school mentorship brings in distraction* (**In-depth interview, Aboh Mbaise, Female 2023**). Teacher 4 also mentioned *distraction from fellow students* (**In-depth interview, Ikenegbu, Female 2023**). This is because constant distraction affects the students' concentration span. They have to keep refamiliarizing themselves with the study materials and things they were doing every time they get distracted and because of this the processing and storing of information in their brains get affected.

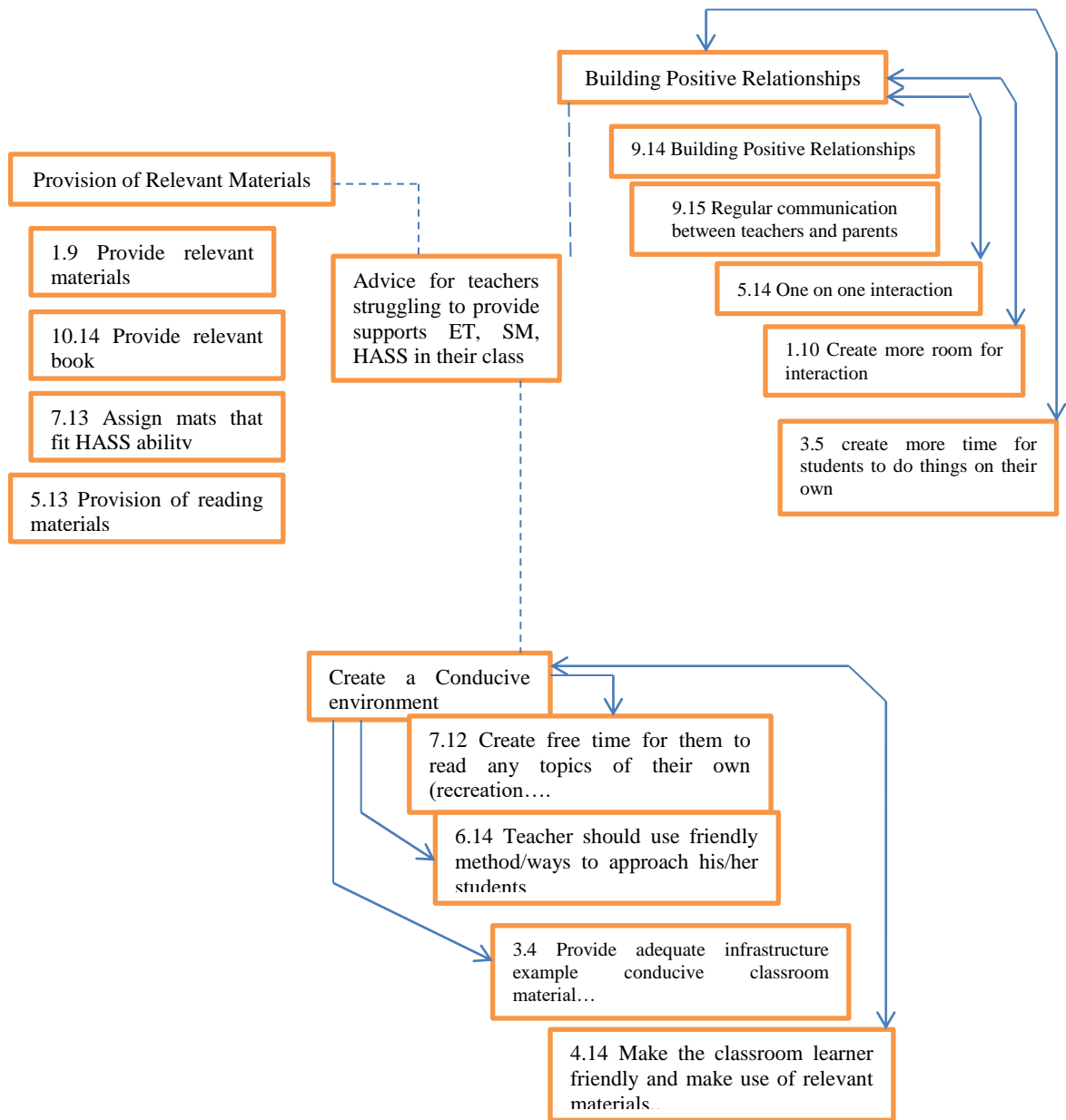
**Bibliotherapy:** Since the use of bibliotherapy approach involves a whole lot of books and literatures, Teacher 6 identified one of the major barriers faced using this approach, he stated that *they may not be able to locate some of their reading materials* (**In-depth interview, Nkwere, Male 2023**). Teacher 1 also cried out that *no books in library some libraries are not functional* (**In-depth interview, Owerri, Male 2023**).

For this approach to be successful, reading materials must be readily available and easily accessed by the students.

**Tiered Instruction:** in the aspect of TI, Teacher 3 looked disappointed, he mentioned that *no trained experts to handle those programmes* (**In-depth interview, Owerri, Male 2023**). This is because for any educational programme to succeed there must be well trained and experienced teachers who can handle such programmes competently. Teacher 5 added that *tiered instruction may create stress for the teacher* (**In-depth interview, Ehime Mbano, Female 2023**). Hence it involves separating students into groups based on skill level and teaching them a modified lesson to fit their skill level.

**Advice for teachers who are struggling to provide supports (enrichment and mentorship) to HASS in their classroom**





**Figure 4.5: Advice for teachers who are struggling to provide supports (enrichment and mentorship) to HASSS in their classroom.**

**Building Positive Relationships:** Having good teacher-student connections is essential for students to meet many of their academic needs. This is so that teachers may help pupils feel competent by giving them feedback. They are aware of the preferences and interests of their students and show admiration for and respect for their distinctive differences. Teacher 7 advised that, there should be more room for interaction *create more room for interaction between teachers and students* (**In-depth interview, Aboh Mbaise, Female 2023**). Teacher 3 supported by also saying *create more time for students to do things on their own* (**In-depth interview, Owerri, Male 2023**). This is due to the fact that positive connections between teachers and pupils can greatly increase students' motivation and promote learning. Comparatively to their peers, students who have access to such solid relationships demonstrate higher social skills, are more academically engaged, and behave more positively.

**Creating a Learning Environment that is Conducive:** A learning environment that is good and conducive is focused basically on improving academic achievement, maintaining high standards and fostering positive relationships between teachers and students. This may be why Teacher 6 advised that *they should make the classroom learner friendly and make use of relevant materials* (**In-depth interview, Ehime Mbano, Female 2023**). Teacher 3 seconded when he said that *teacher should use friendly method/ways to approach his/her students* (**In-depth interview, Isiala Mbano, Male 2023**). Approaching students in friendly ways make them feel loved and valued thereby motivating them to do better academically.

**Provision of Relevant Materials:** adequate provision of relevant study materials is paramount for the success of any academic endeavour. Teacher 7 was of the opinion that, adequate and relevant study materials should be made available *make relevant materials to be available* (**In-depth interview, Aboh Mbaise, Female 2023**). He was supported by Teacher 2 who also mentioned that *reading materials assigned to them must be within their ability* (**In-depth interview, Nkwere, Male 2023**). Teacher 6 then concluded that *they should make the relevant books and materials available* (**In-depth interview, Ehime Mbano, Female 2023**). This is so that learning resources, which speed up the learning process, can considerably improve learners' accomplishment. For instance, an informative movie can provide students fresh perspectives, and a fun worksheet can give them chances to put new knowledge from the classroom into practise.

#### **4.4 Discussion of Findings**

This aspect focuses on providing reasons for the result obtained and how they were obtained. The discussion is presented in themes derived from questions generated from the research.

##### **4.4.1 Relationship between ET programmes (TI, IS) and Academic Achievement of HASSS**

The finding revealed that HASSS' academic achievement positively correlated with ET programmes. This implies that ET programmes (tiered instruction and independent study) had direct relationship with HASSS' academic achievement. All of the items had mean scores that were higher than the criterion mean, which makes this finding conceivable. This means that the measure of tiered instruction enrichment programme among HASSS in Owerri, Imo State is high as against the threshold of criterion mean set in this study.

These quantitative results are in consonance with the responses of the teachers with respect to in-depth interview question 2. The teachers posited that the following relationship exists between ET (tiered instruction and independent study) programmes and academic achievement among HASs in Owerri, Imo State.

The HASSS develop a sense of commitment and self-involvement in their studies when they are exposed to enrichment and SM programmes. Tiered instruction allows HAS SS to work with appropriately challenging tasks. Tiered instruction makes students to work hard to bring out the best potential in them. Tiered instruction helped in making teaching and learning easy as it reduces the stress of handling students with different skills and abilities.

Independent study or working on their own brings out the competitive spirit to face other students. With this strategy, students strive to be at their best. It fosters the spirit of self-dependency which promotes school achievement and adjustment. With this, HASs are capable of covering many topics as they can on their own. It has helped teachers to be able to cover the scheme of work in less than 5 weeks.

This finding is consistent with those made by Al-Zoubi (2014), who found that academic achievement of gifted and talented students can be improved through enrichment programming. In order to meet the unique needs of high-ability students in a variety of areas, such as cognitive, affective, creative, and psychomotor

development, enrichment programmes modify and supplement the conventional curriculum. Research by Bonney, Amoah, Micah, Ahiameny, and Lemaire (2015) also emphasises the value of enthusiastic teachers as mentors. In addition to adapting to different learning styles and classroom dynamics, these educators also show their efficacy by using cutting-edge classroom management strategies that promote a secure, resourceful, and productive learning environment.

#### **4.4.2 Relationship between ET Programmes (TI, IS) and Academic Adjustment of HASSS**

The finding showed that HASSS' academic adjustment does not have a significant correlation with tiered instruction enrichment programme and independent study. This implies that ET programmes (tiered instruction and independent study) do not have a direct relationship with HASSS' academic adjustment. The findings of a study by Fakolade and Adeniyi (2010), which examined the impact of enrichment programmes and self-directed learning models on the academic achievement of a group of chosen gifted children in multiple secondary schools, are in conflict with this finding. Their research showed that the individuals' post-test academic achievement levels were significantly improved by the treatment. Furthermore, the study failed to find any gender-based significant main impact. It was interesting to see that gifted male students who experienced both enrichment and self-directed learning models outperformed their female counterparts in terms of mean test scores. These findings imply that enrichment activities have the ability to improve gifted children' school experiences.

#### **4.4.3 Relationship between SM Programmes (OM, GM BM) and Academic Achievement of HASSS**

The finding indicated that HASSS' academic achievement positively correlated with one on one SM, group SM and bibliotherapy SM. This implies that SM programmes (one on one SM, group SM and bibliotherapy SM) had direct relationship with HASSS' academic achievement.

These findings agree with the opinions teachers expressed at the in-depth interview sessions held with them. Teachers' responses showed that in one-on-one SM, the majority of students are favoured in this strategy as it creates a personal

relationship with mentor and mentee. It also provides individualized support for the mentee. It helps them to find out the best in them. It enhances their progress in learning. One-on-one SM enables them to have competitive spirit to face others. It helps them to see their progress in their programme. Students get to become more focused in their studies.

Group SM helps students to learn from one another. It aids teachers to keep track of students' learning and is a source of information for curriculum development. Group SM encourages brainstorming and enables HASs to share with their teams their various opinions and understanding on subject matter. It helps HASs to learn from other students in the group. It makes learning active and lively and students make progress in their learning. Also, teachers reiterated that bibliotherapy encourages effective social behaviour, clarifies values and instils cultural identity. Bibliotherapy helps them to read wide, improve their reading ability and update their ability.

The finding that SM programmes (one on one SM, group SM and bibliotherapy SM) had direct relationship with HASSS' academic achievement is in agreement with Hattie (2003) and Kyriakides, Christoforou, and Charalambous, (2013) found that SM programmes account for up to 30% of the variance in student achievement. This result supports the claim made by Bensimon (2007), who stressed that minority youth who achieve academic success, particularly those who are first-generation college students and originate from low-income households, frequently credit their achievements to the encouragement they receive from professors. Having faculty mentorship can be extremely beneficial for these young people, who might not have their families' support, in many facets of their academic path. The academic self-confidence of young students is greatly boosted by faculty members who interact constructively with them, focus on improving their academic talents, and provide encouragement, validation, and academic support. Furthermore, as mentioned by Deil-Amen (2011), faculty members can be very beneficial in offering young students procedural assistance and support.

#### **4.4.4 Relationship between SM Programmes (TI, IS, OM, GM, BM) and Academic Adjustment of HASSS**

The result indicates that HASSS' academic adjustment positively correlated with one on one SM, group SM and bibliotherapy SM. This implies that SM

programmes (one on one SM, group SM and bibliotherapy SM) had direct relationship with HASSS' academic adjustment. That is, these factors influenced HASSS' academic adjustment. This result is in line with a prior investigation by Naga et al. (2020), which looked into the effects of a mentorship programme on the academic performance of first-year MBBS students. The study discovered that pupils' average test results were much higher after the mentorship programme started than they had been prior to it. Notably, female students showed a greater improvement in their academic performance than did their male counterparts. Additionally, students who initially had below-average grades on the pre-program evaluation experienced a considerable improvement as a result of the mentorship programme. The overwhelming favourable feedback from students, many of whom firmly agreed that the mentorship programme was helpful and successful for their academic progress, further confirmed the mentorship program's efficacy.

#### **4.4.5 Joint Contribution of the Independent Variables (TI, IS, OM, GM, BM) to Academic Achievement of HASSS**

The findings show that when the IVs were taken into account together, they significantly increased HASSS's academic performance. This shows that there was a statistically significant interaction between the independent and dependent variables. The table also shows a coefficient of multiple correlations, suggesting that, when taken as a whole, the five predictor variables accounted for the variance in HASSS's academic achievement. This joint contribution's significance was carefully evaluated.

Additionally, the regression's analysis of variance produced a significant result. As a result, it was determined that the independent factors' combined contribution to the dependent variable was considerable. It's vital to keep in mind that additional variables and residuals that weren't considered in this model could be responsible for the remaining variation. This finding is consistent with other research on the impact of ET programmes on the academic achievement of gifted and talented students by Assouline, Colangelo, and Vantassel-Baska (2015), Colangelo, Assouline, and Gross (2004), and Al-zoubi (2014). Additionally, their research revealed that ET programmes help such pupils' academic performance to improve. Because they are created to address the varied needs of HASSS in the cognitive, affective, creative, and

psychomotor domains, ET programmes are important supplements to the conventional curricula.

#### **4.4.6 Joint Contribution of the Independent Variables (TI, IS, OM, GM and BM) to Academic Adjustment of HASSS**

The findings show that when the IVs were taken into account collectively, they significantly increased the academic adjustment of HASSS. This suggests that there was a statistically significant interaction between the independent and dependent variables. The table also shows a coefficient of multiple correlations, which suggests that, when taken as a whole, the five predictor variables can explain the variance in the academic adjustment of HASSS. This composite contribution's importance was carefully evaluated.

Additionally, the regression's analysis of variance produced a significant result. As a result, it was determined that the independent factors' combined contribution to the dependent variable was considerable. It is important to keep in mind that additional variables and residuals that were excluded from this model could be responsible for the remaining variation.

The study by Fakolade and Adeniyi (2010), which discovered a significant treatment effect on post-test academic success scores among subjects, is consistent with this finding. The study found that gifted male subjects exposed to enrichment trials and self-directed models got better mean scores than their female counterparts exposed to the same treatment. Gender did not have a significant main effect, however. This suggests that ET programmes include activities, experiences, and subject matter that go above and beyond the requirements of the standard curriculum, thereby enhancing students' learning and occupying their time. In the end, these programmes help students become more creative and strengthen their cognitive processes.

#### **4.4.7 Relative Contribution of the Independent Variables (TI, IS, OM, GM and BM) to Academic Achievement of HASSS**

The result indicates that only tiered instruction made significant individual contribution to academic achievement of HASSS. The other factors namely: independent study, one on one SM, group SM and bibliotherapy SM did not make

significant individual contribution to academic achievement of HASSS. The result also indicates that tiered instruction enrichment programme had the strongest prediction power because it had the highest beta weighted value, followed by bibliotherapy SM, one on one SM, independent study and group SM. This finding is consistent with the findings of Bonney, Amoah, Micah, Ahiamenyo, and Lemaire (2015), who noted that teachers' enthusiasm for their profession reflects how successful mentors they are. By using efficient classroom management strategies, these mentors show flexibility to a range of learning styles and classroom dynamics in the classroom. By using this strategy, you may establish a safe, resourceful, and productive learning environment. Additionally, this result is in line with the findings of Xuehui, Emily, and Tanja's (2008) study, which found a strong correlation between student engagement metrics and assessments of teaching quality. In general, these components' relationships follow predetermined patterns. Particularly, students with higher educational aspirations tend to believe that their teachers value them, treat them fairly, and encourage questioning. On the other hand, students who claim that their instructors give out an excessive amount of assignments and mostly rely on lectures in class tend to be less engaged.

#### **4.4.8 Relative Contribution of the Independent Variables (TI, IS, OM, GM and BM) to Academic Adjustment of HASSS**

The result indicates that tiered instruction, independent study, one on one SM, group SM individually did not contribute to academic adjustment of HASSS. It is however revealed that only bibliotherapy SM had individual effect on academic adjustment of HASSS. That is, there is an indication that bibliotherapy SM programme had the strongest prediction power because it had the highest beta weighted value, followed by group SM, one on one SM, independent study, and tiered instruction. This implies that bibliotherapy SM is the variable that could independently and significantly predict academic adjustment of HASSS in the study. This result is consistent with research done by Dennis, Phinney, and Chuateco in 2005, who looked at how peer support affected the academic performance of 100 first-generation college students from ethnic minorities. According to their research, a lack of peer support was a significant predictor of poorer academic performance and a lower grade point average (GPA). Surprisingly, lower levels of reported peer support



remained strongly connected with lower academic adjustment and GPA even after controlling for variables such as students' high school GPA, socioeconomic status (SES), parents' educational level, and motivation levels. These findings highlight how crucial it is for institutions to provide chances for the growth of peer support networks in order to improve students' academic progress and adjustment.

#### **4.4.9 Barriers Encountered by Teachers in Using ET and SM Programmes for HAS**

Based on the teachers' responses to the interview question 4 the following findings are derived on the theme of barriers teachers face in applying ET (independent study programme, tiered instruction programme) and SM (one-on one SM, group SM and bibliotherapy) programmes for high ability students. Teachers identified the following barriers: tight schedules (when engaging in one-on-one mentorship, a teacher may not be able to finish with all students within a day, too much work, lack of available materials or technologies, fear of failure.

SM in a one-on-one setting can be difficult for a variety of reasons. The efficiency of the mentoring relationship can be hampered by insufficient training for both mentors and mentees. Poor communication abilities, especially the capacity for crystal-clear written and oral thinking expression, are essential for success in such a setting. Additionally, students can be hesitant to broach sensitive subjects, which would limit the mentoring relationship's depth.

Sometimes reading materials that meet their levels are not always available and the environment might not be conducive for mentoring. Also, some HASSS are arrogant and stubborn. Likewise, tiered instruction may create stress for the teacher, some HASSS may be facing distractions from fellow students when put in group mentorship programmes.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

This chapter presents summary of the finding, conclusion, implication of the findings, contribution to knowledge, recommendations, limitations to the study and suggestion for future studies.

#### **5.1 Summary of the Study**

The study investigated the ET and SM programmes as determinants of academic achievement and adjustment among HASSS in Imo State, Nigeria. It covered HASs in senior secondary schools in twelve (12) secondary schools from the three senatorial zones in Imo State. The first chapter gave the general introduction to the study and the concepts of students with high ability, academic achievement, academic adjustment, ET and SM. The operational definition of terms and concepts covered high ability, academic achievement, academic adjustment, ET and SM.

The second chapter presented theories to which the study anchored and related studies on HASsand academic achievement, ET and academic achievement of HASs , SM and academic achievement of HASs, bibliotherapy and academic achievement of High ability students, ET and academic adjustment of high ability students, SM programmes and academic adjustment of high ability students. Chapter three presented research methods and method of data analysis. Chapter four presented the analysis of the data and findings were discussed. The last chapter presented the summary of the study, conclusion, implication of the findings, contribution to knowledge, recommendations, limitations to the study and suggestion for future studies.

Utilising descriptive statistics such as frequency counts, percentages, means, standard deviations, and tests of norms, the quantitative data collected was evaluated. Multiple Regression and PPMC were also used. In order to assess the qualitative data, content-analysis was used. The study's results showed the following:

1. There was a high level of TI, IS, OM, GM and BM programmes utilised by teachers for HASSS.
2. Enrichment triad programmes (TI and IS) had direct relationship with HASSS academic achievement but not with academic adjustment.
3. Enrichment triad (TI and IS) and School mentorship (OM, GM and BM) positively correlated with the academic achievement and adjustment of HASSS. That is, these factors influenced academic achievement and adjustment of HASSS.
4. The joint contribution of enrichment triad (TI and IS) and school mentorship (OM, GM and BM) programmes was significant to academic achievement and adjustment of HASSS.
5. Tiered instruction had the strongest prediction power towards academic achievement of HASSS, while bibliotherapy school mentorship programme had the strongest potency to predict the academic adjustment of HASSS.
6. Teachers' lack of professional training and non-availability of appropriate teaching materials and technologies are barriers to improving academic achievement and adjustment of HASSS.

## **5.2 Implications of Findings**

It is evident from the results that teachers require continual, on-the-spot professional development and assistance in order to shape their developing conceptual and ideological grasp of what an ET programme means in their teaching practise. Offering professional development chances to this set of instructors, who have historically received little attention, is the simplest approach. Research repeatedly shows that teachers who have received training in gifted pedagogy are the best at promoting students' development and achievement. Even if there is some physical distance between them, teachers who deal with high-ability students may be able to act as classroom peer coaches or offer dialogical assistance as they engage in continual learning and reflection on their teaching practises.

It is shown from the findings that HASSS' academic achievement positively correlated with ET programmes. The teacher should ensure that enrichment programmes are designed for HASSS in their classroom.

### **5.3 Conclusion**

This study investigated enrichment triad (TI and IS) and school mentorship (OM, GM and BM) as determinants of academic achievement and adjustment of HASSS in Owerri, Imo State, Nigeria. Based on the findings, it is emphasised that HASSS' academic achievement positively correlated with ET programmes. HASSS' academic adjustment does not have a significant correlation with tiered instruction enrichment programme and independent study. HASSS' academic achievement positively correlated with one-on-one SM, group SM and bibliotherapy SM. HASSS' academic adjustment positively correlated with one-on-one SM, group SM and bibliotherapy SM. Significant joint contribution of tiered instruction, independent study, one on one SM, group SM and bibliotherapy to academic achievement of HASSS was found. Significant joint contribution of tiered instruction, independent study, one on one SM, group SM and bibliotherapy to academic adjustment of HASSS was found only tiered instruction made significant individual contribution to academic achievement of HASSS. Bibliotherapy SM programme had the strongest prediction power because it had the highest beta weighted value, followed by group SM, one on one SM, independent study, and tiered instruction.

### **5.4 Limitations of the Study**

The study was faced with some limitations such as dearth of indigeneous literature on some aspects of the subject matter. For instance, the issue of mentorship for HASSS has not fully been researched by scholars within the country. This limited the search for literature to mostly foreign sources. The study was limited to HASSS in Imo State. As such generalization of the study findings may not be adequate in terms of the whole of HASSS within Southeastern states, Nigeria. Only HASSS in classes 1 and 2 were included in the study. If HASs in other classes are included in future research it will yield more robust findings.

### **5.5 Recommendations**

As a result of findings from this study, the below were made as recommendations

- 1 Teachers of HASSS should include ET programmes in the educational programme planned for them for the sake of persistent academic achievement and improved academic adjustment.

- 2 One on one SM, group SM and bibliotherapy SM should be judiciously used by the classroom teacher to foster academic achievement.
- 3 One on one SM, group SM and bibliotherapy SM should be used to make HASSS adjust with any academic task.
- 4 Teachers of HASSS should employ independent study and tiered instruction in teaching and learning process of HASSS.
- 5 Curriculum planners should utilise the findings of this study in curriculum planning and modification for HASSS.

## **5.6 Contributions to Knowledge**

1. The study has established the potency of tiered instruction on academic achievement among high ability secondary school students in Imo State, Nigeria.
2. It has affirmed that bibliotherapy mentorship is a potent factor on academic adjustment of high ability senior secondary school students.
3. The study identified that teachers' lack of professional training and non-availability of appropriate teaching materials and technologies were major barriers to improving academic achievement and adjustment of high ability secondary school students.
4. The study has expanded the scope of literature on enrichment triads, school mentorship, academic achievement and adjustments thereby filling the in the existing literature since the study showed that enrichment triad and school mentorship has significantly contributed to academic achievement and adjustments among high ability secondary school students Imo state.
3. The findings of this study has provided an empirical foundation for further investigation on other factors that can predate academic achievements and adjustments among high ability senior secondary school.
4. The study has documented the need for increased knowledge and awareness of teachers and administrators on the importance of the ET and SM programmes in teaching and learning among HASs.
5. The study has shown that one on one school mentorship, group school mentorship and Bibliotherapy school mentorship has significantly contributed

to academic achievement among high ability senior secondary school which parents and stockholders can easily explore in promoting quality relationships among their education.

### **5.7 Suggestions for Further Studies**

A longitudinal study tracking the effectiveness of students' achievement who participated in this study to the end of their secondary school education could be embarked on by other researchers. Similar studies could be carried out among respondents in other geopolitical zones of Nigeria and in other levels of education like the tertiary level.

## REFERENCES

- Abakpa, B. O. and Iji, C. O. 2011. Effect of mastery learning approach on senior secondary school students' achievement in geometry. *Journal of Science Teachers Association of Nigeria*.
- Abdulkadiroglu, A. and Sonmez, T. 2003. School choice: a mechanism design approach', *American Economic Review*, 93(3), 729–47.
- Abdulkadiroglu, A., Pathak, P.A. and Roth, A.E. 2009. Strategy-proofness vs. efficiency in matching with indifference: redesigning the NYC high school match, *American Economic Review*, 99(5), 1954–78.
- Adebiyi, E. F. 2012. *Effects of explicit and generative instructional strategies on students' achievement in reading comprehension in Ikere local government area of Ekiti State,*” Tech. Rep. An Unpublished M.Ed Project Submitted to the Department of Teacher Education, University of Ibadan, Ibadan, Nigeria.
- Adegoke, B. A. 2010. Integrating animation, narratives and textual information for improving physics learning, *Electronic Journal of Research on educational Psychology*. 8(2), 725- 748.
- Adelodun, G. A. 2017. Meeting the unique needs of gifted and talented learners in Nigerianschools: Support options. *Journal of Special Education*, 15:1-9.
- Adelodun, G. A. 2021. Mentorship and ability grouping as barometers of socio-cognitive well-being among high-ability students in Ibadan, Nigeria. *IJASSE*, 6 (1),1-9.
- Adeyemo, D. A. 2001. Teachers' job satisfaction, job involvement, career and organizational commitments as correlates of student-academic achievement. *Nigerian journal of applied psychology*, 6(2), 126-135.
- Adesehinwa, O. A. and Aremu, A. O. 2010. The relationship among predictors of child, family, school, society and the government and academic achievement of senior secondary school students in Ibadan, Nigeria. *Procedia Social and Behavioral Science*, 5, 842–849.
- Afolayan, J. A. Donald, B., Onasoga, O. Adeyanju B. A. and Agama, J.A.2013.Relationship between anxiety and academic achievement of nursing students,Niger Delta University, Bayelsa State, Nigeria. *Advances in Applied Science Research*, 2013, 4(5):25-33
- Afterschool Alliance, 2014a. America after 3PM: Afterschool Programmes in Demand. [http://afterschoolalliance.org/documents/AA3pm-2014/AA3PM\\_National\\_Report.pdf](http://afterschoolalliance.org/documents/AA3pm-2014/AA3PM_National_Report.pdf).

- Afterschool Alliance. 2015c. Evaluations Backgrounder: A Summary of Formal Evaluations of Afterschool Programmes' Impact on Academics, Behavior, Safety and Family Life.  
[http://afterschoolalliance.org/documents/Evaluation\\_Backgrounder.pdf](http://afterschoolalliance.org/documents/Evaluation_Backgrounder.pdf).
- Aghenta J.A. 2006. Manpower planning, higher education and employment in Nigeria: Nigeria Academic of Education Year Book No. 4, Lagos.
- Akinla, O., Hagan, P. and Atiomo, W. 2018. A systematic review of the literature describing the outcomes of near-peer mentoring programmes for first year medical students. *BMC Medical Education*.18, (98) 18-67.  
<https://bmcmmededuc.biomedcentral.com/articles/10.1186/s12909-018-1195-1>
- Akinleke, W. O. 2017. Impact of family structure on the academic achievement of secondary school students in Yewa local government area of Ogun State, Nigeria. *International Journal of Sociology and Anthropology Research*, 3(1), 1-10
- Akiri, A .A. 2013. Effects of teachers' effectiveness on students' academic achievement in public secondary schools, Delta State, Nigeria. *Journal of Educational and Social Research*, 3(3): 105-112
- Ali, N., Jusof, K., Ali, S., Mokhtar, N., and Salamat, A. S. A. 2009. The factors influencing students' achievement at universiti teknologi mara kedah, Malaysia. *Management Science and Engineering*, 3(4), 81-90
- Ali, S., Haider, Z., Munir, F., Khan, H., and Ahmed, A. 2013. Factors contributing to student's academic achievement: A case study of Islamia University Sub campus. *American Journal of Educational Research*, 1(8), 283- 289.  
<http://dx.doi.org/10.12691/education-1-8-3>
- Al-zoubi, S.M. 2014. Effects of ET programmes on the academic achievement of gifted and talented students. *Journal for the Education of the Young Scientist and Giftedness*. 2 (2), 22-27
- Alonso, J. A. and Benito, Y. 2003. *The world of information: opportunities and challenges for the gifted and talented*. Northridge, CA: World Council for Gifted and Talented Children.
- Allen, D., and B. J. Fraser. 2007. Parent and student perceptions of classroom learning environment and its association with student outcomes. *Learning Environments Research* 10 (1): 67–82
- Almeida, L. S. 2005. *Sucesso e insucesso no ensino básico: relevância de variáveis sócio-familiares e escolares em alunos do 5º ano*. Proceedings of the VIII Congresso Galaico Português de PsicoPedagogia. Braga: Universidade do Minho, 14 - 16. Available at URL:  
<http://repositorium.sdum.uminho.pt/bitstream/1822/4206/1/433.pdf>



- Aluko, K. O. 2004. *Effects of cooperative and individualistic instructional Strategies on students problem solving abilities in secondary school chemistry in Ilesa*. Unpublished Ph.D thesis, CSET Department University of Ilorin, Nigeria.
- Ambrose, D. 2002. Socioeconomic stratification and its influences on talent development: Some interdisciplinary perspectives. *Gifted Child Quarterly*, 46, 170–180.
- Andrews, J. and Clark, R. 2011. *Peer mentoring works! How peer mentoring enhances student success in higher education*. Birmingham: Aston University.
- Angrist, J. D. and Lavy, V. 2001. Does teacher training affect pupil learning? Evidence from matched parings in Jerusalem public schools. *Journal of Labour Economics*, 19 (2), 343-369.
- Anouke, B., Ton Van H., van de Brand, M. and Lisette, H. 2017. *A comparison of high-ability pupils' views vs. regular ability pupils' views of characteristics of good primary school teachers*, Educational Studies. 1-22.
- Aragoni, L. 2011. *Teach how to write a summary reading, writing, studying require it,*” <http://www.you-can-teach-writing.com>.
- Aremu, A. O. 2000. *Academic achievement five factor inventory*. Ibadan: Stirling-Horden Publishers.
- Aremu, S. and Oluwole, B. 2000. *The Development and Validation and Academic Achievement. 5 Factor Inventory: An Unpublished Manuscript Department of Guidance and Counselling, University of Ibadan, Ibadan*.
- Aremu, A.O. and Oluwole, D.A. 2001. Gender and birth order as predictors of normal pupil's anxiety pattern in examination. *Ibadan Journal of Educational Studies*, 1, (1), 1-7.
- Aremu, O. A and Sokan, B. O. 2003. A multi-causal evaluation of academic achievement of Nigerian learners: issues and implications for national development. Department of Guidance and Counselling, University of Ibadan, Ibadan.
- Armstrong, T. 2009. *Multiple intelligences in the classroom, 3rd edition*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Assouline, S. and Lupkowski-Shoplik, A., 2005. *Developing Math Talent: A Guide for Educating Gifted And Advanced Learners in Math*. Prufrock Press.
- Assouline, S.G.; Colangelo, N.; Vantassel-Baska, J. A 2015. *Nation empowered*; Belin-Blank Center: Iowa City, IA, USA, Volume 1.

- Bagwell, C. L., Coie, J. D., Terry, R. A., and Lochman, J. E. 2000. Peer Clique Participation and Social Status in Preadolescence. *Merrill-Palmer Quarterly*, 46(2), 280–305.
- Bainbridge, C. 2020. *Differences between academic high achievers and gifted students*. Very well family. <https://www.verywellfamily.com/high-achiever-1449168>.
- Bakx, A., M. Koopman, P. Den Brok, and J. De Kruijf. 2015. Pupils' Views on Good Primary School Teachers. *Teachers and Teaching: Theory and Practice* 21 (5): 543–564.
- Bakx, A., Houtert, T.V., Brand, M.V. and Hornstra, L. 2017. *A comparison of high-ability pupils' views vs. regular ability pupils' views of characteristics of good primary school teachers*. Routledge, Taylor and Francis Group.
- Barchard, K.A. 2003. Does Emotional Intelligence Assist in the Prediction of Academic Success? *Educational and Psychological Measurement*, 63(5), 840–858. DOI: 10.1177/0013164403251333
- Barringer, M., Pohlman, C., and Robinson, M. 2010. *Schools for all kinds of minds*. San Francisco, CA: Jossey-Bass. Pp. 35.
- Basten, U.; Hilger, K. and Fiebach, C.J. 2015. Where smart brains are different: A quantitative meta-analysis of functional and structural brain imaging studies on intelligence. *Intelligence*, 51, 10–27
- Baudson, T. G., Fischbach, A., and Preckel, F. 2014. Teacher judgments as measures of children's cognitive ability: A multilevel analysis. *Learning and Individual Differences*.
- Baum, S. M.; Renzulli, J. S. and Hébert, T. P. 1995. Reversing underachievement: Creative productivity as a systematic intervention. *Gift Child. Q.* 39, 224–235.
- Beebe, A., Burgess, T., Carroll, C., and Charlens, E. 2009. A village without borders: Umoja programmes level the playing field for African-American students. *Community College Journal*, 79(5), 34-39.
- Bégin, J., and Gagné, F. 1994. Predictors of attitudes toward gifted education: A review of the literature and a blueprint for future research. *Journal for the Education of the Gifted*, 17, 161–179. doi:10.1177/016235329401700206.
- Bégin, J., and Gagné, F. 1995. Predictors of a general attitude toward gifted education. *Journal for the Education of the Gifted*, 18, 74–86.
- Beishuizen, J. J., E. Hof, C. M. Putten, S. Bouwmeester, and J. J. Asscher. 2001. Students' and Teachers' Cognitions about Good Teachers. *British Journal of Educational Psychology* 71 (2): 185–201.

- Bensimon, E. M. 2007. The underestimated significance of practitioner knowledge in the scholarship on student success. *The Review of Higher Education*, 30(4), 441- 469.
- Bennett, S. N. 1978. Recent research on teaching: A dream, a belief, and a model. *British Journal of Educational Psychology*, 48, 127-147.
- Berger, E. H. 2008. *Parents as partners in education*. Upper Saddle River, NJ: Pearson.
- Betul, I. Marilena, Z. Leana-Taşçılar, G.S. 2018. The effects of the bibliotherapy technique on perfectionism levels in gifted children: An experimental study. *European Journal of Education Studies*. 4, (12)
- Bey, T. M. and Holmes, C.T. 1992. *Mentoring: Contemporary Principles and Issues*. Reston, VA: Association of Teacher Educators.
- Bianco, M., Harris, B., Garrison-Wade, D., and Leech, N. 2011. Gifted girls: Gender bias in gifted referrals. *Roeper Review*, 33, 170–181.
- Bianco, M. and Leech, N. L. 2010. Twice-exceptional learners: Effects of teacher preparation and disability labels on gifted referrals. *Teacher Education and Special Education*, 33, 319–334.
- Bicknell, B., 2014. Parental roles in the education of mathematically gifted and talented children. *Gifted Child Today*, 37, 83-93.
- Blackshear, P. B. 1979. A comparison of peer nomination and teacher nomination in the identification of the academically gifted, black, primary level student. *Diss. Abstr. Int.* 40:5A
- Blake, J. 2006. Burying literary treasure: developing inspirational approaches to a level literature.' *English drama media (NATE)*, 5, 21–26.
- Blazer, C. 2016. Information capsule research services. *Public school*, 1509, 1-16. <https://files.eric.ed.gov/fulltext/ED570131.pdf>
- Blazar, D. 2016. *Teacher and Teaching Effects on Students' Academic Achievement, Attitudes, and Behaviors*. Doctoral dissertation, Harvard Graduate School of Education.
- Bonney, E. A. Amoah, D. F., Micah, S. A. Ahiamenyo, C. and Lemaire, M. B. 2015. The Relationship between the Quality of Teachers and Pupils Academic Achievement in the STMA Junior High Schools of the Western Region of Ghana. *Journal of Education and Practice*. 6, (24), 139-150. <https://files.eric.ed.gov/fulltext/EJ1078818.pdf>
- Borges, A. and Hernández-Jorge, C. 2006. La superdotación intelectual: Algo más que un privilegio. *Acta Cient. Y Technol.* 10, 28–33.

- Borland, J., Schnur, R., and Wright, L. 2000. Economically disadvantaged students in a school for the academically gifted: a postpositivist inquiry into individual and family adjustment. *Gifted Child Quarterly*, 44, 13-32.
- Borland, J.H. 2009. Myth 2: The gifted constitute 3% to 5% of the population. Moreover, giftedness equals high IQ, which is a stable measure of aptitude: Spinal tap psychometrics in gifted education. *Gifted Child Quarterly*, 53(4), 236-238.
- Boynton, M. and Boynton, C. 2005. *Developing positive teacher-student relationships*. In Educator's Guide to Preventing and Solving Discipline Problems. Retrieved from [http://www.ascd.org/publications/books/105124/chapters/Developing\\_Positive\\_TeacherStudent\\_Relations.aspx](http://www.ascd.org/publications/books/105124/chapters/Developing_Positive_TeacherStudent_Relations.aspx)
- Bozeman, B.; Feeney, M. K. 2007. Toward a useful theory of mentoring: A conceptual analysis and critique. *Administration and Society*. 39 (6): 719–739.
- Bratti, M., and Staffolani, S. 2006. *Student time allocation and educational production functions*. University of Ancona, Department of Economics Working Paper No. 170. <http://ideas.repec.org/p/wpa/wuwphe/0207001.html> (Retrieved: December 2013).
- Briggs, C. A. and Pehrsson, D. E. 2008. Use of bibliotherapy in the treatment of grief and loss: A guide to current counseling practices. *Adulspan Journal*, 7(1), 32-42.
- Brighton, C. M., Moon, T. R., Jarvis, J. M., and Hockett, J. A. 2007. *Primary grade teachers' conceptions of giftedness and talent: A case-based investigation*. Connecticut, US: National Research Center on the Gifted and Talented.
- Brodley, L. E. and Stanley, J. C. 2005. Youth who reason exceptionally well mathematically and/or verbally. In *Conceptions of Giftedness*; Sternberg, R., Davidson, J.E., Eds.; Cambridge University Press: Cambridge, UK, 20–37.
- Brooks, M., Jones, C., and Burt, I. 2013. Are African-American Male Undergraduate Retention Programmes Successful? An Evaluation of an Undergraduate AfricanAmerican Male Retention Programme. *Journal of African American Studies*, 17(2), 206-221.
- Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Brophy, J., and T. Good. 1986. *Teacher Behaviour and Student Achievement*. In Handbook of Research on Teaching, edited by M. Wittrock, 328–375, 3rd ed. New York: Macmillan.

- Brown, B. B. 2004. *Adolescents' relationships with peers*. In: Lerner R, Steinberg L, editors. *The handbook of adolescent psychology*. New York: Wiley. pp. 363–396.
- Brown, C. A., Smith, M. S. and Stein, M. K. 1995. *Linking teacher support to enhanced classroom instruction*. Paper presented at the AERA Conference, New York.
- Buddin R, Zamarro G. 2009. Teacher qualifications and student achievement in urban elementary schools. *Journal of Urban Economics*, 66(2): 103-115.
- Bulacan State University, 2011. Oppapers, *Academic Achievement of Nursing Students* (online), obtained from [www.oppapers.com/Health/NursingResearchPapers](http://www.oppapers.com/Health/NursingResearchPapers), Bulacan State University.
- Buell, C. 2004. Models of mentoring in communication. *Journal of Communication Education*, 53(3), 56-73. <http://en.wikipedia.org/wik/mentoring>.
- Bull, A., Brooking, K. and Campbell, R. 2008. *Successful Home-School Partnerships Report to the Ministry of Education*. Ministry of Education, New Zealand. [https://www.nzcer.org.nz/system/files/884\\_Successful\\_Home-School\\_Partnership-v2.pdf](https://www.nzcer.org.nz/system/files/884_Successful_Home-School_Partnership-v2.pdf)
- Burney, V. S, and Neumeister, K. 2006. *Guiding Students with High Abilities: Social and Emotional Considerations*. Indiana Department of Education, Indianapolis, Pg. 1-21.
- Busse, T. V., Dahme, G., Wagner, H., and Wiczerkowski, W. 1986. Teacher perceptions of highly gifted students in the United States and West Germany. *Gifted Child Quarterly*, 30, 55–60.
- Caballero, C., Abello, R. and Palacio, J. 2007. Relación de burnout y rendimiento académico con la satisfacción frente a los estudios en estudiantes universitarios. *Avances en Psicología Latinoamericana*, 25(2), 98-111. Recuperado de <http://www.scielo.org.co/pdf/apl/v25n2/v25n2a7.pdf>
- Cadenas, M., and Borges, A. 2017. The assessment of change in social interaction through observation. *Acción Psicol.* 14, 121–136.
- Cairns, R. B., Cairns, B. D., Neckerman, H. J., Gest, S. D., and Gariépy, J.L. 1988. Social networks and aggressive behaviour: Peer support or peer rejection? *Developmental Psychology*, 24(6), 815–823.
- Cairns, R. B., Xie, H., and Leung, M.-C. 1998. The popularity of friendship and the neglect of social networks: toward a new balance. *New Directions for Child Development*, (80), 25–53.

- Caine, R. N, and Caine, G. 1991. *Making connections: teaching and the human brain*. Alexandria (VA): Association for Supervision and Curriculum Development.
- Callahan, C. M. 2005. Identifying gifted students from underrepresented populations. *Theory Into Practice*, 44, 98–104.
- Callahan, C. M., T. R. Moon, S. Oh, A. P. Azano, and E. P. Hailey. 2015. What Works in Gifted Education: Documenting the Effects of an Integrated Curricular/Instructional Model for Gifted Students. *American Educational Research Journal* 52 (1): 137–167.
- Calsamiglia, C., Haeringer, G. and Klijn, F. 2010. ‘Constrained school choice: an experimental study’, *American Economic Review*, 100(4), 1860–74.
- Campbell, J. R., Wagner, H. and Walberg, H. J. 2000. *Academic competitions and programmes designed to challenge the exceptionally talented*. In: Heller KA, Mönks FJ, Sternberg RJ, Subotnik RF (eds) *International handbook of giftedness and talent* (2nd ed.), Oxford: Pergamon Press pp.523-535.
- Campbell, J., Kyriakides, L., Muijs, D. and Robinson, W. 2004. *Assessing teacher effectiveness: a differentiated model*. London: Routledge Falmer.
- Candeias, A. A.; Rebelo, N.; Oliveira, M. and Mendes, P. 2012. *Pupils attitudes and motivation toward learning and school study of exploratory modes on the effects of sociodemographics, personal attitudes and school characteristics*. Portugal: Centre of Research in Education and Psychology, University of Evora.
- Canale, J. R., Dunlap, L., Britt, M. and Donahue, T., 1996. The relative importance of various college characteristics to students in influencing their choice of college. *The College Student Journal*, 30: 214-216.
- Carpentier, V. and Lall, M. 2005. *Review of successful parental involvement practice for ‘hard to reach’ parents*. London: Institute of Education, University of London
- Carter, P. 2005. *Keepin’ it real: School success beyond black and white*. New York: Oxford University Press.
- Carr, P. B., Rattan, A., and Dweck, C. S. 2012. Implicit theories shape intergroup relations. In P. Devine & A. Plant (Eds.), *Advances in Experimental Social Psychology* (45, 127-165). Burlington: Academic Press.
- Carroll, J. B. 1963. A model of school learning. *Teachers College Record*, 64, 723-733.
- Carragher, J. and McGaughey, J. 2016. The effectiveness of peer mentoring in promoting a positive transition to higher education for first-year undergraduate

- students: a mixed methods systematic review protocol. *Systematic Reviews* 5 (68), 16-24
- Catalano, A. 2008. Making a place for bibliotherapy on the shelves of a curriculum materials center: The case for helping pre-service teachers use developmental bibliotherapy in the classroom. *Educational Libraries: Children's Resources*, 31(3), 17-22.
- Cascón, I. 2000b. Predictores del rendimiento académico en alumnos de primero y segundo de BUP. Recuperado de <http://campus.usal.es/~inico/investigacion/jornadas/jornada2/comun/c19.html>
- Castellano, J. A., and Frazier, A. D. 2011. *Special populations in gifted education: Understanding our most able students from diverse backgrounds*. Waco, TX: Prufrock Press.
- Chaney, B., Muraskin, L. D., Cahalan, M. W., and Goodwin, D. 1998. Helping the progress of disadvantaged students in higher education: The federal student support services programme. *Educational Evaluation and Policy Analysis*, 20(3), 197-215.
- Chang, L. 2003. Variable Effects of Children's Aggression, Social Withdrawal, and Prosocial Leadership as Functions of Teacher Beliefs and Behaviours. *Child Development*, 74(2), 535–548.
- Chetty, R., Friedman, J. N., and Rockoff, J. E. 2014. Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *American Economic Review*, 104(9), 2633-79.
- Chirkov, V. I., Ryan, R. M., Kim, Y., and Kaplan, U. 2003. Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, 84, 97-110
- Chitwood, D. G. 1986. Guiding parents seeking testing. *Roeper Review* 8(3), 177-179.
- Christie, K. 2005. Changing the nature of parent involvement. *Phi Delta Kappa*, 86(9), 645- 646.
- Chukwuemeka, E. E. O., Ananti, M., and Onyekwelu, R. 2020. Dwindling Academic Achievement of Secondary School Students in Enugu State Nigeria: Diagnosing Teacher-Student Relationship for Therapy. *International Journal of Regional Development* 6(2):27-48. DOI: 10.5296/ijrd.v6i2.16314
- Clark, G. and Zimmerman, E .2002. Tending the special spark: accelerated and enriched curricula for highly talented art students. *Roeper Review*, 24(3), 161-168.

- Clendening, C. P. and Davies, R. A. 1983. *Challenging the gifted: curriculum ET and acceleration models*. New York (NY): R. R. Bowker Company.
- Cillessen, A. H. and Bukowski, W. M. 2000. *Recent advances in the measurement of acceptance and rejection in the peer system*. San Francisco, CA: Jossey-Bass.
- Cillessen, A. H. and Mayeux, L. 2004. From censure to reinforcement: Developmental changes in the association between aggression and social status. *Child Development*. 75:147–163.
- California Department of Education, 2014. *Independent Study*. California Department of Education.
- Clark, B. 2002. *Growing up gifted: Developing the potential of children at home and at school, 6th ed.* Upper Saddle River, NJ: Prentice Hall.
- Clark, C. and Shore, B. M. 2004. *Educating Students with High Ability Revised Edition*. United Nations Educational, Scientific and Cultural Organization.
- Clotfelter, C. T., Ladd, H. F., Jacob, L. and Vigdor, J. L. 2014. Teacher-student matching and the assessment of teacher effectiveness. *Educational Evaluation and Policy Analysis*, 36: 83-11.
- Coie, J. D., and Dodge, K. A. 1983. Continuities and changes in children's social status: A five-year longitudinal study. *Merrill-Palmer Quarterly*. 29:261–282.
- Coie, J. D., Dodge, K. A., and Coppotelli, H. 1982. Dimensions and types of social status: A cross-age perspective. *Developmental Psychology*, 18, 557-570.
- Colangelo, N. and Assouline, S. 2009. *Acceleration: meeting the academic and social needs of students*, in *The Routledge International Companion to Gifted Education*, eds Balchin T., Hymer B., Matthews D. J. (London; New York, NY: Routledge; Taylor and Francis Group), 194–202.
- Colangelo, N. and Aussoline, S. Gross, M. 2004. *A Nation Deceived: How Schools Hold Back America's Brightest Students*; Gifted Education Research, Resource and Information Centre (GERRIC): Sydney, Australia.
- Colangelo, N. and Davis, G. A. 2003. *Handbook of gifted education*, 3rd Edn. Boston, MA: Ally and Boston.
- Cole, M., and Cole, S. 2001. *The development of children* (4th ed.). New York: Scientific American Books.
- Coleman, M. R., and Gallagher, J. J. 1995. State identification policies: Gifted students from special populations. *Roepers Review*, 17, 268–275.
- Collins, P.M. 2006. Inspiring high student achievement through an integrated philosophy of education. *Achievement improvement*, 45(8), 31–33.



- Considine, G., and Zappala, G. 2002. Influence of social and economic disadvantage in the academic achievement of school students in Austria. *Journal of Sociology*, 8, 129-148.<http://dx.doi.org/10.1177/144078302128756543>
- Correll, M. M. 1978. Teaching the gifted and talented. Bloomington (IN): Phi Delta Kappa Educational Foundation.
- Cross, T. L. and Coleman, L. J. 2005. *School-based conception of giftedness*, in *Conceptions of Giftedness*, eds Sternberg R., Davidson J. E. (Cambridge: Cambridge University Press), 52–63.
- Cox, J. and Daniel, N. 1983. Identification: Special problems and special populations. *Gift. Child Today* 30:54-61.
- Curry, C. 2013. *Charter School Leadership: Elements for School Success. R&L Education. p. 29. ISBN 978-1-4758-0328-0.*
- Curwood, J. S. 2014. English teachers’ cultural models about technology: A microethnographic perspective on professional development. *Journal of Literacy Research*, 46(1): 9-38.
- Dada, R. M. 2020. The impact of academic mentoring on students’ achievement in Lagos State University, Nigeria: An educational planner’s perspective *Direct Research Journal of Social Science and Educational Studies* 7 (5), 117-122.
- Dai, D. Y. 2010. *The nature and nurture of giftedness: a new framework for understanding gifted education*, New York, London: Teachers’ College Press.
- Danili, E. and Reid, N. 2006. Some potential factors affecting pupils’ achievement, *Chemistry Education Research and Practice*. 7(2): 64-83.
- Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., and Orphanos, S. 2009. *Professional learning in the learning profession: A status report on teacher professional development in the United States and abroad*. Texas: National Staff Development Council.
- Darling-Hammond, L., Chung, R., and Frelow, F. 2002. Variation in teacher preparation: How well do different pathways prepare teachers to teach? *Journal of Teacher Education*, 53(4), 286-302.
- Darling-Hammond, L. and Youngs, P. 2002. Defining “highly qualified teachers”: what does “scientifically-based research” actually tell us? *Educational researcher*, 31(9), 13–25.
- Davies, D. 1996. Partnerships for student success. *New Schools, New Communities*, 12(3), 13–21.

- Davis, G. A., Rimm, S. B. and Siegle, D. 2011. *Education of the gifted and talented children*, Upper Saddle River, NJ: Pearson.
- Davies, P. T. and Cummings, M. T. 1994. Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116. 387-411.
- Davis-Kean, P. E. 2005. The influence of parent education and family income on child achievement: The indirect role of parental expectations and the home environment. *Journal of Family Psychology*. 19:294–304.
- Day, C., Sammons, P., Stobart, G., Kington, A. and Gu, Q. 2007. *Teachers matter: connecting work, lives and effectiveness*. Maidenhead: McGraw-Hill/Open University Press.
- Dearing, E., McCartney, K. and Taylor, B. A. 2001. Change in family income matters more for children with less. *Child Development*.72:1779–1793.
- Deci, E. L., Koestner, R., and Ryan, R. M. 1999. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627-668.
- De Laet, S., Doumen, S., Vervoort, E., Colpin, H., Van Leeuwen, K., Goossens, L., and Verschueren, K. 2014. Transactional Links Between Teacher–Child Relationship Quality and Perceived Versus Sociometric Popularity: A Three-Wave Longitudinal Study. *Child Development*, 85(4), 1647–1662.
- Del Vecchio, T. 2011. *Peer nomination technique*. In: Goldstein S., Naglieri, J.A. (eds) *Encyclopedia of Child Behaviour and Development*. Springer, Boston, MA.
- Deil-Amen, R. 2011. Socio-academic integrative moments: Rethinking academic and social integration among two-year college students in career-related programmes. *The Journal of Higher Education*, 82(1), 54-91.
- den Brok, P., M. Brekelmans, and T. Wubbels. 2004. Interpersonal Teacher Behaviour and Student Outcomes. *School Effectiveness and School Improvement* 15 (3–4): 407–442.
- Dennis, J. M., Phinney, J. S., and Chuateco, L. I. 2005. The role of motivation, parental support, and peer support in the academic success of ethnic minority first generation college students. *Journal of College Student Development*, 46(3), 223- 236.
- Department for Education, 2013. *Teachers' standards*. London: DfE Publications.
- Desforges, C. and Abouchaar, A. 2003. *The impact of parental involvement, parental support and family education on pupil achievement and adjustment: a literature review*. Department for Education and Skills, Nottingham.

- Deku, P. 2013. Teacher Nomination of Gifted and Talented Children: A Study of Basic and Senior High Schools in the Central Region of Ghana. *Journal of Education and Practice*, 4(18), 1-7.
- Dewhurst, D., Macleod, H. A. and Norris, T. A. 2000. Independent student learning aided by computers: An acceptable alternative to lectures?" *Computers and Education* 35 (3):223–241.
- Díaz-Morales, J. F., and Escribano, C. 2015. Social jetlag, academic achievement and cognitive achievement: Understanding gender/sex differences. *Chronobiology international*, 32(6), 822-831.
- Dickinson, D. 1996. Learning through many students on intelligences. [http://newhorizons.org/strategies/mi/dickinson\\_mi.html](http://newhorizons.org/strategies/mi/dickinson_mi.html)
- DiPerna, J. C., Volpe, R. J., and Elliott, S. N. 2002. A model of academic enablers and elementary reading/language arts achievement. *School Psychology Review*, 31(3), 298-312.
- Doll, B. and Doll, C. 2002. *Bibliotherapy with young people*. Englewood: Co Libraries Unlimited.
- Doo, M.Y, Bonk, C, and Heo, H. 2020. A meta-analysis of scaffolding effects in online learning in higher education. *IRRODL*. 21(3). doi:10.19173/irrodl.v21i3.4638
- Doolaard, S., M. O, and Onderwijsaanbod, K. B. R. 2007 2010. “Lessons Learned About Educating the Gifted and Talented a Synthesis of the Research on Educational Practice.” *Gifted Child Quarterly* 51 (4): 382–396.
- Driessen, G., T. Mooij, and J. Doesborgh. 2007. *Giftedness of Students in Primary Education [hoogbegaafdheid van leerlingen in het primair onderwijs]*. Nijmegen: Radboud University.
- Duncan, G. J. and Brooks-Gunn, J. 1997 *Consequences of growing up poor*. New York: Russell Sage Foundation.
- Dunlap, W.P., and Frank, D. 1996. Teacher education for today and tomorrow: General and special education. *The College Student Journal*, 30: 97-104.
- Duriscic, M. and Bunijevac, M. 2017. Parental involvement as an important factor for successful education. *cep s Journal*, 7 (3) 137 -153
- Dweck, C. S., Chiu, C., and Hong, Y. 1995. Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological Inquiry*, 6, 267–285.
- Dyson, B. 2014. Quality physical education: A commentary on effective physical education teaching. *Research Quarterly for Exercise and Sport*, 85(2), 144-152.

- Eagle Edge, 2020. What are the benefits of academic ET programmes? <https://www.eaglesedgeprogrammes.org/blog/what-are-the-benefits-of-academic-ET-programmes/>
- Eccles, J. S., and Wigfield, A. 2002. Motivational beliefs, values, and goals. *Annual review of psychology*, 53(1), 109-132.
- Eccles, J. S., and Wigfield, A. 1995. In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs.
- Eccles, J. S., Midgley, C., Wigfield, A., Buchanan, C. M., Reuman, D., Flanagan, C., and Mac Iver, D. 1993. Development during adolescence: the impact of stageenvironment fit on young adolescents' experiences in schools and in families. *American psychologist*, 48(2),90.
- Education Development Trust, 2016. *Inspiring teachers: perspectives and practices Summary report*. Education Development Trust, Highbridge House 1-52.
- Ee, J., Boore, P.J. and Atputhasamy, L. 2003. *High-achieving Students: Their motivational goals, self-regulation and achievement and relationships to their teachers' goals and strategy-based instruction*. In Taylor and Francis (Routledge) High ability studies. Online ISSN: 1469-834X <https://www.researchgate.net/journal/High-Ability-Studies-1469-834X>
- Eisenman, G. and Harper, R. 2016. Bibliotherapy for Classroom Management. *Dimensions of Early Childhood*, 44 (1), 11-17.
- Elhoweris, H. 2008. Teacher judgment in identifying gifted/talented students. *Multicultural Education*, 15(3), 35-38.
- Elhoweris, H., Mutua, K., Alsheikh, N., and Holloway, P. 2005. The effect of the child's ethnicity on teachers' referral and recommendation decisions in the gifted/talented programmes. *Remedial and Special Education*, 26, 25-31.
- Elices, J. A., Palazuelos, M. and del Caño M. 2013. Alumnos con Altas Capacidades Intelectuales. *Características, Evaluación y Respuesta Educativa* Madrid: Editorial CEPE.
- Emeagwali, S. 2009. Fostering parent-teacher collaboration in the classroom. *Techniques (Association for Career and Technical Education)*, 84(5), 8.
- Endepohls-Ulpe, M., and Ruf, H. 2005. Primary school teachers' criteria for the identification of gifted pupils. *High Ability Studies*, 16, 219–228.
- English, J.L. 1999. *The Charter Movement: Education Reform School by School*. DIANE Publishing. p. 73. ISBN 978-0-7881-8220-4. Retrieved 25 May 2013.
- Empey, D.W. 1968. *Independent Study*. The Clearing House: 229.

- Epstein, J. L. 2009. *In School, family, and community partnerships: Your handbook for action* (3rd ed.). USA: Corwin Press.
- Epstein, J., and Sheldon, S. 2006. *Moving forward: Ideas for research on school, family, and community partnerships*. In C. Conrad & R. Serlin (Ed.) SAGE handbook for research in education: Engaging ideas and enriching inquiry California: Sage Publications.
- Etsey, K. 2005. *Causes of low academic achievement of primary school pupils in the Shama Sub-Metro of Shama Ahanta East Metropolitan Assembly in Ghana*. Regional Conference on Education in West Africa.
- Eun B. 2017. The zone of proximal development as an overarching concept: A framework for synthesizing Vygotsky's theories. *Educational Philosophy and Theory*. 51(1):18-30. doi:10.1080/00131857.2017.1421941
- Eyre, D. 1997. *Able children in ordinary schools*. London: David Fulton Publishers.
- Eysenck, M. and Derkshen, N. 2009. Academic achievement. *European Psychologist*, 14,168-175.
- Ezeh, D. N. 1992. *Effects of study questions as advance organizer on students' achievement, retention and interest in integrated science*. Unpublished Ph.D Thesis. Nsukka. University of Nigeria.
- Ezike, B. 2007. *Effects of cognitive style and students' achievement in chemistry*. An Unpublished Ph.D. thesis, University of Ibadan, Nigeria.
- Fajola, O. O. 2000. *Effect of three modes of computer Based instructional strategies on students learning outcomes in biology*. Unpublished Ph.D thesis, Department of Teachers' Education, University of Ibadan.
- Fakeye, D. O. 2001. *Relative effects of instruction in componential and rhetorical strategies on senior secondary school students' achievement in essay writing in Ibadan*, An Unpublished Ph.D. thesis, University of Ibadan.
- Fakeye, D. O. 2008. ESL students' cognitive and English comprehension achievement in South Western Nigeria," *Nigerian Journal of Counselling and Applied Psychology*, 4 (1). 23-30.
- Fakolade, A. O. and Adeniyi, S. O. 2010. Efficacy of ET and self-directed models on academic achievement of gifted students in selected secondary schools in Nigeria. *African Journal of Cross-Cultural Psychology and Sport Facilitation*, 10, 217-226.
- Farooq, M. S., Chaudry, A. H., Shafiq, M., and Berhanu, G. 2011. Factors affecting students' quality of academic achievement: A case of secondary level. *Journal of Quality and Technology management*, 7(2), 01-14. Available at: <https://www.gu.se/english/research/publication%3FpublicationId%3D157715>

- Federal Republic of Nigeria, 2004. *National policy on education (4<sup>th</sup> ed.)*. Lagos, NERDC Press.
- Feldhusen, J. F. and Kroll, M. D. 1991. Boredom or challenge for the academically talented in school. *Gifted Educ Int.* 7:80–81.
- Feldhusen, J. F, and Kroll M. D. 1985. Parent perceptions of gifted children's educational needs. *Roeper Rev.* 7:249–252. [Taylor & Francis Online]
- Fenske, P. 2005. People in children's lives: Adults who promote resilience in children who have experienced abuse. *Relational Child and Youth Care Practice*, 18, (3) 50-55.
- Ferrandíz, C.; Ruíz-Melero, M. and Bermejo, R. 2018. Programmas de enriquecimento para el desarrollo del talento y la excelencia. In Educacao de Superdotados e Talentosos. Emocao E Criatividade; Ribeiro, F.H., Stoltz, T., Costa-Lobo, C., Rocha, A., Vásquez- Justo, E., Eds.; (Organizadores) Juruá Editora: Curitiba, Brazil, pp. 167–187.
- Fetterman, D. M. 1988. *Excellence and Equality: A Qualitatively Different Perspective of Gifted and Talented Education*. SUNY series, frontiers in education. Albany: State University of New York Press. p. 36. ISBN 978-1-4384-0271-0. Retrieved 25 May 2013.
- Fiedler, E. D., Lange, R. E., and Winebrenner, S. 2002. In search of reality: Unraveling the myths about tracking, ability grouping, and the gifted. *Roeper Review*, 24, 108-111.
- Fisher, T. 2009. *Using bibliotherapy with gifted children*. Editorial Project in Education. <https://www.edweek.org/education/opinion-using-bibliotherapy-with-gifted-children/2009/03>
- Firestone, W. A. 2014. Teacher evaluation policy and conflicting theories of motivation. *Educational Researcher*, 43(2), 100-107.
- Fleming, G. 2019. *Independent Study*. Georgia Southern University.
- Forgan, J. 2002. Using bibliotherapy to teach problem solving. *Intervention in School and Clinic*, 38(2), 75-82.
- Ford, D. Y. 1998. The underrepresentation of minority students in gifted education: Problems and promises in recruitment and retention. *The Journal of Special Education*, 32(1), 4-14.
- Ford, D. Y., Grantham, T. C., and Whiting, G. W. 2008. Culturally and linguistically diverse students in gifted education: Recruitment and retention issues. *Exceptional Children*, 74(3), 289-306.

- Ford, D. Y., Harris III, J. J., Tyson, C. A., and Trotman, M. F. 2000. Beyond deficit thinking: Providing access for gifted African American students. *Roeper Review*, 24(2), 52-58.
- Foster, J. 2019. *Gifted high-ability learners*. The Creativity Post.  
<https://www.creativitypost.com/article/gifted-high-ability-learners>
- Fraser, B. J. and Walberg, H. J. 2005. Research on teacher-student relationship and learning environments: Context, retrospect, and prospect. *International Journal of Educational Research*, 43, 103-109.
- Freedman, M. and Jaffe, N. 1993. *Elder mentors: Giving schools a chance*. National Association of Secondary School Principals Bulletin.
- Freeman, J. and Josepsson, B. 2002. A gifted programme in Iceland and its effects. *High Ability Studies*, 13, 35-46.
- Frey, A. 2002. Predictors of placement recommendations for children with behavioural or emotional disorders. *Behavioral Disorders*, 27, 126-136.
- Fries-Gaither, J. 2009. Bibliotherapy: Helping students, one book at a time. Beyond Penguins and Polar Bears.  
<https://beyondpenguins.ehe.osu.edu/issue/polaroceans/bibliotherapy-helping-students-one-book-at-a-time>.
- Gagne, F. 1989. Peer nominations as a psychometric instrument: Many questions asked but only few answered. *Gift. Child Q.* 33:53-58.
- Gambari, A. I. 2010. *Effects of computer supported cooperative learning strategy on achievement of senior secondary students in physics in Minna, Nigeria*. An Unpublished Ph.D Thesis, University of Ilorin, Nigeria.
- Ganai, M. Y., and Muhammad, A. M. 2013. A comparative study of adjustment and academic achievement of college student: *Journal of Educational Research & Essay*. 11 (1), 5-8.
- Gándara, P. and Meorado, M. 2005. *Putting your money where your mouth is: Mentoring as a strategy to increase access to higher education. Preparing for college: Nine elements of effective outreach*, 89-110.
- Gangi, S. 2011. *Differentiating Instruction using Multiple Intelligences in the Elementary School Classroom: A Literature Review*. A Research Paper Submitted in Partial Fulfillment of the Requirements for the Master of Science Degree III Education. The Graduate School, University of Wisconsin-Stou
- Ganser, T. 2006. A status report on teacher mentoring programmes in the United States. *Mentoring in education: An international perspective*, 33-55.

- Garmezy N. 1995. *Development and adaptation: The contributions of the MacArthur Foundation and William Bevan*. In: Kessel F, editor. *Psychology, science, and human affairs: Essays in honor of William Bevan*. Westview Press; Boulder, CO: 109–124.
- Garbarino, J. and Kostelny, K. 1992. Child maltreatment as a community problem. *Child Abuse Neglect*, 16, 455-464.
- García-Ros, R., Talaya, I., and Pérez-González, F. 2012. The process of identifying gifted children in elementary education: Teachers' evaluations of creativity. *School Psychology International*, 33, 661–672.
- Gardner, H. 1983. *Frames of mind: the theory of multiple intelligences*. New York: Basic Books.
- Gardner, H. 1995. Reflections on multiple intelligences. [Electronic version]. *Phi Delta Kappan*, 77(3), 200-208.
- Gardner, H. 1996. Reflections on Multiple Intelligences: Myths and messages. *Phi Delta Kappan*, 77, (3), 200-209.
- Gardner, H. 2003. MI after 20 years. Retrieved from <http://www.howardgardner.com/Papers/papers.html>
- Gardner, H. 2005. Multiple lenses on the mind. Retrieved from <http://www.howardgardner.com/Papers/papers.html>
- Gardner, H. 2006. *Multiple intelligences: New horizons*. New York, NY. Basic Books.
- Gardner, H. 2009. Frequently asked questions-- multiple intelligences and related educational topics. Retrieved from <http://howardgardner.com/FAQ/FREQUENTLY%20ASKED%20QUESTIONS%20Updated%20March%202009.pdf>
- Gardner, R, and Moran, S. 2006. The science of multiple intelligences theory: A response to Lynn Waterhouse. *Educational Psychologist*, 41(4), 227-232. 10.1207/s15326985ep4104\_2
- Gathercole, S. Lamont, E. and Alloway, T. 2006. *Working memory in the classroom*. In: Pickering, S. (Ed) *Working Memory and Education*. New York: Elsevier.
- Gay, G. 1995. Modeling and mentoring in urban education. *Education and Urban Society*, 28 (1), 103-118.
- Geake J. G. 2009. Neuropsychological characteristics of academic and creative giftedness, in *International Handbook of Giftedness*, ed Shavinina L. V. (Dordrecht: Springer; ), 261–73.



- Gear, G. H. 1978. Effects of training on teachers' accuracy in the identification of gifted children. *Gifted Child Quarterly*, 22, 90–97.
- Gentry, M., Hu, S., and Thomas, A. T. 2008. *Ethnically diverse students*. In Plucker, J. A. & Callahan, C. M. (Eds.), *Critical issues and practices in gifted education: What the research says* (pp. 195-212). Waco, TX: Prufrock Press.
- Gentry, M., and Gable, R. K. 2001a. *My Class Activities: A survey instrument to assess students' perceptions of interest, challenge, choice and enjoyment in their classrooms*. Mansfield Center, CT: Creative Learning Press.
- Gehlbach, H., Brinkworth, M., and Harris, A. 2012. Changes in teacher-student relationships. *British Journal of Educational Psychology*, 82, 690-704. doi: 10.1111/j.2044- 8279.2011.02058.x
- George, P. and Aronson, R. 2003. *How do educators' cultural belief systems affect underserved students' pursuit of postsecondary education?* Honolulu, HI: Pacific Resources for Education and Learning.
- Gerline, M. 2017. *Theoretical background* 1-7. Retrieved on 16/04/2020 from: <https://www.scribd.com/document/342466638/Theoretical-Background>
- Gladding, S. T, and Gladding, C. 1991. The ABCs of bibliotherapy for school counselors. *The School Counselor*, 39, 7-11.
- Goldhaber, D. D., and Brewer, D. J. 2000. Does teacher certification matter? High school teacher certification status and student achievement. *Educational Evaluation and Policy Analysis*, 22 (2): 129-146.
- Gómez-León, M. I. 2020. Bases psicobiológicas de la creatividad en los niños con altas capacidades. *Psic. Biol.*, 27, 28–33. [CrossRef]
- González-Pienda, J. A., Núñez, C., Glez.-Pumariega, S. and García, M. 1997. Autoconcepto, autoestima y aprendizaje escolar. *Psicothema*, 9(2), 271- 289. Recuperado de <http://www.psicothema.com/pdf/97.pdf>
- Grolnick, W. S. and Slowiaczek, M. L. 1994. Parents' involvement in children's schooling: A multidimensional conceptualization and motivation model. *Child Development*, 65. 237- 252.
- Greenberg, M.T., Weissberg, R.P., O'Brien, M.U., Zins, J.E, Fredericks, L., Resnik, H. and Elias, M.J. 2003. Enhancing school-based prevention and youth development through coordinated social, emotional, and academic learning. *American Psychological Association*, 58 (6/7), 466–474.
- Gross, M. U. M. 2004. *Exceptionally gifted children* (2nd Edition). London: RoutledgeFalmer.

- Gutman, L. M., Sameroff, A. S., and Eccles, J. S. 2002. The academic achievement of African-American students during early adolescence: An examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology*, 39, 367–399.
- Hacker, B. 2014. *Using a Blog in an Independent Study*". Chronicles of Higher Learning.
- Haeringer, G. and Klijn, F. 2009. 'Constrained school choice', *Journal of Economic Theory*, 144(5), 1921–47.
- Haertel, G. D., Walberg, H. J., and Weinstein, T. 1983. Psychological models of educational achievement: A theoretical synthesis of constructs. *Review of Educational Research*, 53,75-91.
- Hahs-Vaughn, D. 2004. The impact of parents' education level on college students: An analysis using the beginning postsecondary students longitudinal study 1990- 92/94. *Journal of College Student Development*, 45(5), 483-500.
- Hamachek, D. 1969. Characteristics of Good Teachers and Implications for Teacher Education. *The Phi Delta Kappan* 50 (6): 341–345.
- Hanushek, E. A., Rivkin, S. G. and Kain, J. F. 2005. Teachers, schools, and academic achievement. *Econometrical*,73(03): 417-458.
- Harradine, C. C., Coleman, M. R. B. and Winn, D.-M. C. 2014. Recognizing academic potential in students of color findings of U~STARS~PLUS. *Gifted Child Quarterly*, 58, 24–34.
- Harris, A. and Goodall, J. 2007. Engaging parents in raising achievement. Do parents know they matter? Retrieved 3/10/07 from <http://www.schoolsnetwork.org.uk/raisingachievement/engagingparents/default.aspa>.
- Harris, O. and Sass, T. R. 2006. *Value added models and the measurement of teacher quality*. Unpublished manuscript.
- Harry, W., Ansie, H. and Johann, E. 2017. Student ET in mathematics: a case study with first year university students. *International Journal of Mathematics Education Science and Technology*, 48 (1), 16-29.
- Hattie, J. 2003. *Teachers make a difference: What is the research evidence?* Paper presented at the Australian Council for Educational Research Annual Conference, Melbourne, VIC.
- Hattie, J.A.C. 2009. *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

- Haveman, R. and Wolfe, B. 1995. The determinants of children's attainments: A review of methods and findings. *Journal of Economic Literature*. 33:1829–1878
- Harvey, P. 2010. Bibliotherapy use by welfare teams in secondary colleges. *Australian Journal of Teacher Education*, 35(5), 2939.
- Heacox, D. 2002. *Differentiating Instruction in the Regular Classroom*. Minneapolis, MN: Free Spirit Publishing Inc.
- Head, F.A., Reiman, A.J. and Thies-Sprinthall, L. 1992. The Reality of Mentoring: Complexity in Its Process and Function. *Mentoring: Contemporary Principles and Issues*. ed. Bey, Theresa & Holmes, C. Thomas. Reston, VA: Association of Teacher Educators.
- Heller, K. A. 2004. Identification of gifted and talented students. *Psychol. Sci.* 46(3):302-323.
- Hemphill, M. A., Richards, K. A. R., Templin, T. J., and Blankenship, B. T. 2012. A content analysis of qualitative research in the Journal of Teaching in Physical Education from 1998 to 2008. *Journal of Teaching in Physical Education*, 31(3), 279-287.
- Heinz, N. and Heller, K. 2002. Evaluation of a summer-school programme for highly gifted secondary-school students. *European Journal of Psychological Assessment*, 18(3), 214-228.
- Henderson, A., and Mapp, K. L. 2002. *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Annual synthesis. Austin, TX: National Center for Family and Community Connections with Schools, Southwest Educational Development Laboratory.
- Herrera, C., Grossman, J., and Linden, L. L. 2013. Staying on Track: Testing Higher Achievement's Long-Term Impact on Academic Outcomes and High School Choice. MDRC. Retrieved from <http://www.mdrc.org/publication/staying-track-testing-higher-achievement%E2%80%99s-long-term-impact-academic-outcomes-and-high>.
- Hettleman, K. R. 2007. *Don't deny state's students a quality education*, The Baltimore Sun. Maryland.
- Heyman, G. D. and Dweck, C. S. 1998. Children's thinking about traits: Implications for judgments of the self and others. *Child Dev.* 69:392- 403.
- Hickman, G. P., Bartholomew, M., Mathwig, J., and Heinrich, R. S. 2008. Differential developmental pathways of high school dropouts and graduates. *Journal of Educational Research*, 102(1), 3-14.

- Hindal, H., Reid, N. and Whitehead, R., .2013. High Ability and Learner Characteristics. *International Journal of Instruction*, 6, (1) 59-76.
- Hodge, K. A., and Kemp, C. R. 2006. Recognition of giftedness in the early years of school: Perspectives of teachers, parents, and children. *Journal for the Education of the Gifted*, 30, 164–204.
- Hoogeveen, L. 2008. *Social emotional consequences of accelerating gifted students*. (Doctoral thesis). Radboud Universiteit Nijmegen, Nijmegen, Netherlands.
- Hoogeveen, L., van Hell, J. G., and Verhoeven L. 2012. Social-emotional characteristics of gifted accelerated and non-accelerated students in the Netherlands. *Br. J. Educ. Psychol.* 82, 585–605.
- Hong, B. S., Shull, P. J., and Haefner, L. A. 2011. Impact of perceptions of faculty on student outcomes of self-efficacy, locus of control, persistence, and commitment. *Journal of College Student Retention: Research, Theory and Practice*, 13(3), 289-309.
- Horsley, J. 2012. Teacher catalysts: Characteristics of teachers who facilitate high academic success. *Australasian Journal of Gifted Education*, 21(1), 23-31.
- Horsley, J. and Moeed, A. 2017. If only I had time. *New Zealand Science Review*, 74(2), 36-44.
- Howe, C. 2010. Peer groups and children’s development. Oxford: Wiley-Blackwell.
- Hudley, C., Graham, S., and Taylor, A. 2007. Reducing aggressive behavior and increasing motivation in school: The evolution of an intervention to strengthen school adjustment. *Educational Psychologist*, 42(4), 251-260.
- Hunsaker, S. L., Finley, V. S., and Frank, E. L. 1997. An analysis of teacher nominations and student achievement in gifted programmes. *Gifted Child Quarterly*, 41, 19–24.
- Ige, O. S. 2004. *Effect of cooperative learning strategy on senior secondary school chemistry students achievement in solving electrolysis problems in Ilorin, Nigeria*. Unpublished M.Ed thesis, CSET department, University of Ilorin, Nigeria.
- Iji, C. O and Harbor-Peters. 2005. Effects of logo and basic programmes on the achievement in geometry of junior secondary school students. *ABACCUS* 30(1) 67-77.
- Indiana Association for the Gifted, 2019. *What is “gifted” or “high ability*.Whitestown.  
<http://www.iagonline.org/community/Parents/page2/What%20Is%20Gifted%20or%20High%20Ability/>

- Indiana Department of Education, 2010. *High ability coordinator handbook*. Indiana Department of Education Office of Student Learning High Ability Education.
- Intrator, S. and Kunzman, R. 2006. Grounded: Practicing what we preach. *Journal of Teacher Education* 60: 512-519.
- Ishitani, T. T. 2003. A longitudinal approach to assessing attrition behavior among first generation students: Time-varying effects of pre-college characteristics. *Research in higher education*, 44(4), 433-449.
- Jacob, B. A. and Lefgren, L. 2004. The impact of teacher training on student achievement: Quasi-experimental evidence from school reform efforts in Chicago. *Journal of Human Resources*, 39 (1), 50 - 79.
- Jacobs, G. 2001. Providing the scaffold: A model for early childhood/primary teacher preparation. *Early childhood education Journal*, 29(2), 125-130.
- Janas, Monica, Fall 1996. Mentoring the Mentor: A Challenge for Staff Development. *Journal of Staff Development*, 17 (4), 2-5.
- Jean, G. 2010. Three Rings, Three ET Activities, Three Decades Earlier. *Gifted Education International*, 26(2-3), 157-168.
- Jegade, S. A. and Olu-Ajayi, F. E. 2017. Effects of mentoring and gender on the achievement of low-performing students in biology. *International Journal of Education and Practice*, 5 (7), 104-109.
- Jen, E. 2017. Affective Interventions for High-ability Students from 1984–2015: A Review of Published Studies. *Journal of Advanced Academics* 28 (3): 225–247.
- Jenkins, R. 1979. *Europe and the developing world*. Wiley Online Library. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-7679.1979.tb00285.x>
- Jerome, E., and Pianta, R. 2008. Teacher-Student Relationships. T. Good (Ed.), 21st century Education: *A Reference Handbook*. II, 158-II-169. Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412964012.n68
- Jeronimus, B.F.; Riese, H.; Sanderman, R.; and Ormel, J. 2014. Mutual reinforcement between neuroticism and life experiences: A Five-Wave, 16-Year Study to Test Reciprocal Causation. *Journal of Personality and Social Psychology*. 107 (4): 751–64.
- Jiang, X.L. and Cillessen, A.H.N. 2005. Stability of continuous measures of sociometric status: A meta-analysis. *Developmental Review*; 25:1–25.
- Johnson, D. T, and Boyce, L. N, and Van Tassel-Baska, J. 1995. Science curriculum review: evaluating materials for high-ability learners. *Gifted Child Q.* 39(1):36–44.

- Johnson, D..T. and Sher, B. T. 1997. *Recourse guide to mathematics curriculum materials for high-ability learners in grades K-8*. Williamsburg (VA): College of William and Mary, Center for Gifted Education.
- Jonsson, A. C., Beach, D., Korp, H., and Erlandson, P. 2012. Teachers' implicit theories of intelligence: Influences from different disciplines and scientific theories. *European Journal of Teacher Education*, 35, 387–400.
- Jucovy, L. 2000. *The ABCs of school-based mentoring*. Philadelphia, PA: Public/Private Ventures. Retrieved from [http://ppv.issuelab.org/resource/abcs\\_of\\_school\\_based\\_mentoring](http://ppv.issuelab.org/resource/abcs_of_school_based_mentoring)
- Kamarudin, M. binti, Kamarudin, A. Y. binti, Darmi, R. binti, and Saad, N. S. binti M. 2020. A Review of Coaching and Mentoring Theories and Models. *International Journal of Academic Research in Progressive Education and Development*, 9(2), 289–298.
- Kane, T. J., and Staiger, D. O. 2008. *Estimating teacher impacts on student achievement: An experimental evaluation* (Working Paper No. 14607). Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w14607>
- Kaplan, S. 1986. Alternatives for the Design of Gifted Programme In-service and Staff Development. *Gifted Child Quarterly* 30: 138–139.
- Kasser, T., and Ryan, R. M. 1996. Further examining the American dream: Differential correlates of intrinsic and extrinsic goals. *Personality and Social Psychology Bulletin*, 22, 280-287.
- Kaufman, S. B., and Sternberg, R. J. 2008. *Conceptions of giftedness*. In Steven I. Pfeiffer (Ed.), *Handbook of giftedness in children*. Psychoeducational theory, research, and best practices (pp. 71–91). New York, NY: Springer.
- Kennedy, R. 2014. *Teaching in a boarding school*. From <<http://www.boardingschoolreview.com/articles/18.>> (Retrieved on 22 March 2014).
- Kindermann, T. A. and Gest, S. D. 2009. *Assessment of the peer group: identifying naturally occurring social networks and capturing their effects*. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 100– 117). New York, NY, US: Guilford Press.
- Kindermann, T. A. and Vollet, J. W. 2014. Social networks within classroom ecologies: peer effects on students' engagement in the context of relationships with teachers and parents. *Zeitschrift Für Erziehungswissenschaft*, 17(5), 135–151.
- Kingore, B. 2006. Tiered instruction: *Beginning the process*. <http://www.bertiekingore.com/tieredinstruct.htm>

- Kitano, M. K. and Kirby, D. F. 1986. *Gifted education: A comprehensive view*, Boston, MA: Little Brown and Co.
- Koedel C 2007. Re-Examining the Role of Teacher Quality in the Educational Production Function Study Provided by Department of Economics, University of Missouri in its series Working Study with number 0708. From <[http://economics.missouri.edu/workingstudys/2007/wp0708\\_koedel.pdf](http://economics.missouri.edu/workingstudys/2007/wp0708_koedel.pdf)> (Retrieved on 22 March 2014)
- Kolawole, C. O. O. 1997. *Linguistic inputs and three methods of presentation as determinants of students' achievement in senior secondary school essay writing in Ibadan,* An Unpublished Ph.D. Thesis, University of Ibadan.
- Kolo, I. A. 1999. The effectiveness of Nigerian vs. United States teacher checklist and inventories for nominating potentially gifted Nigerian preschoolers. *Roeper Review*, 21, 179–183.
- Komolafe, A. T. and Yara, P. O. 2010. Sentence combining strategy and primary school pupils achievement in written English in Ibadan, Nigeria,” *European Journal of Scientific Research*, 40, (4),531–539.
- Kpolovie, P.J., Okoto, T. and Joe, A.I. 2014. Academic Achievement Prediction: Role of Interest in Learning and Attitude towards School. *International Journal of Humanities Social Sciences and Education (IJHSSE)* 1(11), 73-100.
- Kumaraswamy, N. 2013. Academic stress, anxiety and depression among college students- A Brief Review. *International Review of Social Sciences and Humanities*, 5(1), 135-143.
- Kutnick, P., and J. Vena. 1993. Students' Perceptions of a Good Teacher: A Developmental Perspective from Trinidad and Tobago. *British Journal of Educational Psychology* 63 (3): 400–413.
- Kyoshaba, M. 2009. *Factors affecting academic achievement of undergraduate students at Uganda Christian University*. Available at: <http://mak.ac.ug/documents/Makfiles/theses/Kyoshaba%2520Martha.pdf> (Retrieved: December 2013).
- Lai, F., Sadoulet, E. and Janvry, A 2011. The contributions of school quality and teacher qualifications to student achievement evidence from a natural experiment in Beijing Middle Schools. *Journal of Human Resources*, 46(1): 123-153.
- Laidra, K., Pullmann, H. & Allik, J. (2007). Personality and intelligence as predictors of academic achievement: A cross-sectional study from elementary to secondary school. *Personality and Individual Differences*, 42, 441-451.
- Lake, R. 2012. *Vygotsky on Education Primer*. Peter Lang.

- Lamas, H. 2015. School Achievement. *Propósitos y Representaciones*, 3(1), 313-386. doi: [http:// dx.doi.org/10.20511/pyr2015.v3n1.74](http://dx.doi.org/10.20511/pyr2015.v3n1.74)
- Lander, I. 2009. Repairing discordant student-teacher relationships: A case study using emotion-focused therapy. *Children & Schools*, 31(4), 229-238. Retrieved from <https://goucher.idm.oclc.org/login?url=http://search.proquest.com.goucher.idm.oclc.org/d ocview/210938541?accountid=11164>
- Larson, J., and Hoover, J. H. 2012. Quality books about bullying in the young adult tradition. *Reclaiming Children and Youth*, 21(1), 49-55.
- Lauver, S. 2012. *Research: afterschool and expanded learning programmes. district administration*, March 2012. Retrieved from <http://www.districtadministration.com/article/research-afterschool-and-expanded-learning-programmes>.
- Lazer, D. 2000. *Pathways o/learning*. Chicago, IL: Zephyr Press.
- Littleton, A.C. 1933. *The Accounting Exchange*. p. 160. JSTOR 238320.
- Lohman, D. 2005. *Identifying academically talented minority students*. Storrs: National Research Center on the Gifted and Talented.
- Lohman, D. F., and Gambrell, J. L. 2012. Using nonverbal tests to help identify academically talented children. *Journal of Psychoeducational Assessment*, 30, 25-44.
- López Andrada, B., Beltrán, M. T., López, B. and Chicharro, D. 2000. *CIDE: Alumnos Precoces, Superdotados y de Altas Capacidades*. Madrid: Centro de investigación y documentación educativa (CIDE).
- Loughran, J. 2014. Professionally developing as a teacher education. *Journal of Teacher Education*, 65(4):271-283.
- Lupkowski-Shoplik, A., and Swiatek, M.A. 1999. Elementary student talent searches: Establishing appropriate guidelines for qualifying test scores. *Gifted Child Quarterly*, 43, 265-272.
- Mann, J. 1994. *The difference: Growing up female in America*. New York, NY: Warner Books.
- Manning, S. 2006. Recognizing gifted students: A practical guide for teachers. *Kappa Delta Pi Rec.* 42, 64-68.
- Marilena, Z. 2012. The use of bibliotherapy in classrooms for giftrd students: A bibliotherapy model. *Turkish Journal of giftedness and Education*, 1 (2), 118-136.
- Martí, E. 2003. Representar el mundo externamente. La construcción infantil de los sistemas externos de representación. Madrid: Antonio Machado.



- Marsh, H. W., Seaton, M., Trautwein, U., Lüdtke, O., Hau, K. T., O'Mara, A. J., and Craven, R. G. 2008. The Big-Fish-Little-Pond-Effect stands up to critical scrutiny: Implications for theory, methodology, and future research. *Educational Psychology Review*, 20, 319-350.
- Marsh, H. W., Seaton, M., Trautwein, U., Lüdtke, O., Hau, K. T., O'Mara, A. J., and Craven, R. G. 2008. The Big-Fish-Little-Pond-Effect stands up to critical scrutiny: Implications for theory, methodology, and future research. *Educational Psychology Review*, 20, 319-350.
- Masse, L. and Gagne, F. 1996. Should self-nomination be allowed in peer nomination forms? *Gift. Child Q.* 40(1):24-30.
- Martinson, R.A. 1974. *The identification of the gifted and talented*, Los Angeles, CA: National/State Leadership Training Institute on the Gifted and Talented.
- Martínez, V. 2007. Los adolescentes ante el estudio. Causas y consecuencias del rendimiento académico. Madrid: Fundamentos.
- Matthew, A.M. 2016. The role of the teacher in gifted education nomination decisions. Dissertation Submitted to The Graduate School of Education Rutgers, The State University of New Jersey 1-110.
- Matthew, R. 2021. Eight different types of mentors and mentoring programmes. <https://www.togetherplatform.com/blog/different-types-of-mentoring-and-their-uses>
- Matthews, D. J., and Yun Dai, D. 2014. Gifted education: changing conceptions, emphases and practice. *Int.Stud. Sociol. Educ.* 24, 335–353.
- Mather, A. 2014. Emotional awareness, honesty and strength: Why teen books are excellent bibliotherapy tools. *Canadian Children's Book News*, 37, 4-5.
- McAllister, B.A, and Plourde, A.L. 2008. ET curriculum: essential for mathematically gifted students. *Education*. 129(1):40–49.
- McBee, M. T. 2006. A descriptive analysis of referral sources for gifted identification screening by race and socioeconomic status. *Journal of Secondary Gifted Education*, 17, 103–111.
- McBee, M. T. 2010. Examining the probability of identification for gifted programmes for students in Georgia elementary schools: A multilevel path analysis study. *Gifted Child Quarterly*, 54, 283–297.
- McBee, M.T. and Peters, S.J. and Miller, E.M. 2016. *The Impact of the nomination stage on gifted programme identification: A Comprehensive Psychometric Analysis*. Gifted Child Quarterly: National Association for Gifted Children, 1–21.

- McClain, M.-C., and Pfeiffer, S. 2012. Identification of gifted students in the United States today: A look at state definitions, policies, and practices. *Journal of Applied School Psychology*, 28, 59–88.
- McCombs, B. L. 2001. Self-regulated learning and academic achievement: A phenomenological view. In B. J. Zimmerman and D. H. Schunk (Eds.), *Self-Regulated Learning and Academic Achievement: Theoretical perspectives* (2nd ed., pp. 67-124). Mahwah, NJ: Lawrence Erlbaum Associates.
- McCoog, I. 2010. The existential learner. *Clearing House*, 83(4), 126-128. 10.1080/100098651003774828
- McKinsey, 2007. *How the world's best performing school systems come out on top*. London: McKinsey. Accessed March 2010. [www.mckinsey.com/locations/ukireland/publications.aspx#Reports](http://www.mckinsey.com/locations/ukireland/publications.aspx#Reports)
- McKinney, K. 2010. Enhancing learning through the scholarship of teaching and learning: The challenges and joys of juggling (139). John Wiley & Sons.
- Melhuish, E., Sylva, C., Sammons, P., Siraj-Blatchford, I., and Taggart, B. 2001. *Social behavioural and cognitive development at 3-4 years in relation to family background*. The effective provision of pre-school education, EPPE project (Technical paper 7). DfEE. London: The Institute of Education.
- Metzler, M. W. 2014. Teacher Effectiveness Research in Physical Education: The Future Isn't What It Used to Be. *Research Quarterly for Exercise and Sport*, 85(1), 14-19.
- Merrick, C. and Targett, R. 2005. *Gifted and talented education: Professional Development Package for Teachers, Module 2*. The University of South Wales.
- Michael-Chadwell, S. 2010. Examining the underrepresentation of underserved students in gifted programmes from a transformational leadership vantage point. *Journal for the Education of the Gifted*, 34(1), 99-130.
- Micari, M., and Pazos, P. 2012. Connecting to the Professor: Impact of the Student–Faculty Relationship in a Highly Challenging Course. *College Teaching*, 60(2), 41-47.
- Milgram, S. 1972. *Interpreting obedience: Error and evidence* (A reply to Orne and Holland).” In *The Social Psychology of Psychological Research*. Edited by Arthur G. Miller. New York, NY: Free Press, 138–54.
- Miller, W.P., and Birch, R.E. 2007. *The influence of type of high school attended on university achievement*. Available at: <http://www3.interscience.wiley.com/journal/118538313> (Retrieved: December 2021).

- Mills, C. J. 2003. Characteristics of Effective Teachers of Gifted Students: Teacher Background and Personality Styles of Students. *Gifted Child Quarterly* 47 (4): 272–281.
- Milner, H. R., and Ford, D. Y. 2007. Cultural considerations in the underrepresentation of culturally diverse elementary students in gifted education. *Roepers Review*, 29(3), 166- 173.
- Missouri Department of Elementary and Secondary Education, 2015. Afterschool Programmes. Retrieved from <https://dese.mo.gov/quality-schools/extended-learning/afterschool-programmes>.
- Mohammed, M, Rufai M.D, and Yahya, L.O. 2017. *Towards Effective Mentoring of Staff in Higher Institutions of Learning in Nigeria*. In F Maringer & E. Ojo (Eds) Sustainable Transformation in African Higher Education Sense Publishers 101-113.
- Moja, T. 2000. *Nigeria Education Sector Analysis: An analytical synthesis of achievement and main issues*. World Bank Document.
- Moon, T. R., and Brighton, C. M. 2008. Primary teachers' conceptions of giftedness. *Journal for the Education of the Gifted*, 31, 447-480.
- Moran, S., Kornhaber, M., and Gardner, H. 2006. Orchestrating multiple intelligences. [Electronic version]. *Educational Leadership*, 64(1),22-27.
- Moore, K.D. 2009. *Effective Instructional Strategies: From Theory to Practice (2 ed.)*. Thousand Oaks, Calif.: Sage Publications. p. 213. ISBN 978-1-4129-5644-4. Retrieved 25 May 2013.
- Moore, M.G. 1973. Toward a theory of independent learning and teaching. *The Journal of Higher Education*: 661–679.
- Morawska, A., and Sanders, M., 2008. Parenting gifted and talented children: what are the key child behavior and parenting issues. *Australian and New Zealand Journal of Psychiatry*, 42, 819-827.
- Morelock, M. J. 1996. On the nature of giftedness and talent: Imposing order on chaos. *Roepers Review* 19(1): 4–12.
- Morgan, H. 1996. An analysis of Gardner's theory of multiple intelligence. *Roepers Review* 18(4): 263–69.
- Morisano, D., and Shore, B. M. 2010. Can Personal Goal Setting Tap the Potential of the Gifted Underachiever? *Roepers Review* 32 (4): 249–258.
- Munoz-Hurtado, J. 2018. The role of teachers on students' peer groups relations. *Límite. Revista Interdisciplinaria de Filosofía y Psicología*. 13, (42), 1-43.

- Naga, G., Prakash, K., Priya, D., Philip, A. and Suni, T. 2020. The effect of mentorship programme in enhancing the academic performance of first MBBS students. *J Adv Med Educ Prof*, 8(4):196-199.
- Nagin, D.S. and Tremblay, R.E. 2001. Parental and early childhood predictors of persistent physical aggression in boys from kindergarten to High School. *Archives of General Psychiatry*. 58:389–394.
- Narad, A., and Abdullah, B. 2016. Academic achievement of senior secondary school students: Influence of parental encouragement and school environment. *Rupkatha Journal on Interdisciplinary Studies in Humanities Special Issue*, 3(2), 12-19.
- National Association for Gifted Children website, 2017. *A brief history of gifted and talented education*. National Association for Gifted Children website.
- National Council for Curriculum and Assessment, 2007. *Gifted and talented pupils guidelines for teachers*. Council for Curriculum Examination and Assessment.
- National Academies of Sciences, Engineering, and Medicine, 1997. *Adviser, Teacher, Role Model, Friend: On Being a Mentor to Students in Science and Engineering*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/5789>.
- Neber, H. 2004. Teacher identification of students for gifted programmes: nominations to a summer school for highly-gifted students. *Psychology Science*, 46, 348-362.
- Newcomb, A. F. and Bukowski, W. M. 1983. Social impact and social preference as determinants of children's peer group status. *Developmental Psychology*. 19:856–867.
- Newfoundland and Labrador Department of Education, 2013. *Handbook for teachers: Gifted and talented students*. Newfoundland and Labrador Department of Education 1-225.
- Ngwakwe, C.C., and Adaka T. A. 2017. Effect of bibliotherapy (BBT) on improving low academic self-concept among secondary school students in Gombe Local Government Area of Gombe State. *Gombe Journal of Education (GOMJE)*, 154-165.
- Nicholson-Nelson, K. 1998. *Developing students' multiple intelligences*. New York, NY: Scholastic Professional Books.
- Nielsen, P. Scott, J.P. and Marcia, G. 2010. My Class Activities Instrument as Used in Saturday ET Programme Evaluation. *Journal of Advanced Academics*, 21 (4), 568–593.

- Niemiec, C. P., Ryan, R. M., and Deci, E. L. 2009. The path taken: Consequences of attaining intrinsic and extrinsic aspirations in post-college life. *Journal of Research in Personality*, 43, 291-306.
- Nieder, L.E. 2019. *Effects of an academic ET programme on elementary-aged students' achievement*. Graduate Theses and Dissertations. University of South Florida <https://scholarcommons.usf.edu/etd/7871>
- No Child Left Behind Act of 2001, 20 U.S.C. § 6301 2001.
- Noble, T. and H. McGrath. 2014. *Well-being and Resilience in School Settings*. Dordrecht: Springer Nederland.
- Nonaka, I., and Nishiguchi, T. 2001. *Knowledge emergence: Social, technical, and evolutionary dimensions of knowledge creation*. Oxford: Oxford University Press
- Nord Anglia Education, 2020. *ET programme*. The British International School, Bratislava. <https://www.nordangliaeducation.com/en/our-schools/bratislava/learning/ET-programme>
- Nordlund, M. 2003. *Differentiated instruction: Meeting the educational needs of all students in your classroom*. Lanham, MD: Scarecrow Press.
- Norwood, W.A. 1977. Peer nomination of gifted students: A comparison of students and teachers in recognizing traits of intellectually gifted children. *Diss. Abstr. Int.* 38:5B.
- Nwangwu I. O. 2007. *Higher education for self-reliance: An imperative for the Nigerian Economy*. In J.B. Babalola; G.O. Akpan, A.O. Ayeni and S.O. Adedeji; Access Equity and Quality in Higher Education, Nigerian Association for Education Administration and Planning.
- Nwazuoke, I. A., Olatoye, R. A. and Oyundoyin, J. O. 2002. Environmental factors as predictors of creativity among Senior, Secondary School students in Oyo State. *Ife Journal of Behavioural Research*, 4(1), 85-93.
- Nye, B., Konstantopoulos, S., and Hedges, L. V. 2004. How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26(3), 237–257.
- Ochuba V.O. 2008. *Improving the quality of education through effective inspection of schools*: <http://www.findarticles.com>.
- Ofsted, 2002. *Evidence from The curriculum in successful primary schools* (HMI 553), [www.ofsted.gov.uk/publications/553](http://www.ofsted.gov.uk/publications/553).
- Ogbonnaya, U.I. 2009. The Influence of Teachers' Background, Professional Development and Teaching Practices on Students' Achievement in Mathematics in Lesotho. *Masters Dissertation, Unpublished*. Pretoria: University of South Africa.

- Ogunfowora. O., Olusoga, B., Olanrewaju, D., and Akenzua, G. A., 2005. Comparative study of academic achievement of children with sickle cell anaemia and healthy siblings. *J Nat Med Assoc.* 404–408.
- Ogunsaju, S. 2004. *A Guide to School Effectiveness in Nigeria*. Ibadan. Laville Publications.
- Ojedokun, R. I. 2010. *Literature circle, semantic mapping and senior secondary school students' learning outcomes in summary writing in English language*. An Unpublished Ph.D. thesis, University of Ibadan, Ibadan, Nigeria.
- Ojokuku, R. M, and Sajuyigbe, A. S. 2015. Impact of mentoring on career development of academics in Nigerian Universities. *International Journal of Contemporary. Education Research.* 4(5):95-105.
- Okeke, E. A. C. 1986. Remedies for Students' Poor Achievement in Science. *Proceedings of the Science Teachers Association of Nigeria* 118 – 136.
- Okon, I., Jubah, W. I., and Okons, E. 2006. Helping HASs overcome Maths Anxiety through bibliotherapy. *Journal of Secondary Gifted Education*, 8(4), 64-179.
- Okoruwa, E. 2007. *Effects of cognitive style and primary school pupils' achievement in integrated science*. An Unpublished Ph.D. thesis, University of Ibadan, Nigeria.
- Okurame, D. E. 2012a. Linking work-family conflict to career commitment: the moderating role of gender and mentoring. *Journal of Career Development*, 39(5), 423-442.
- Okurame, D. E. 2008. Mentoring in the Nigerian Academia: Experiences and challenges. *International Journal of Evidence Based Coaching and Mentoring*. 2008;6.
- Okurame, D. E. and Fabunmi, R. A. 2014. Protean and Boundaryless Careers: exploring the role of mentoring and moderating effects of gender in the context of a major African country. *Career Development International*, 19(1), 73-100.
- Okwilagwe, A. O. and Maswell, F. U., 2020. Bibliotherapy and reduction of examination anxiety among undergraduates students of faculty of education, University of Ibadan, Oyo State, Nigeria", *Library Philosophy and Practice (e-journal)*. 4012, 1-18.
- Olaboopo, A. O. 1999. *Effects of error-treatment, model-based and skill-based instructional strategies on senior secondary school students' achievement, motivation and attitude to composition writing*, Ibadan, An Unpublished Ph.D. thesis, University of Ibadan.

- Olagbaju, O. O. 2020. Cognitive styles and gender as predictors of students' achievement in summary writing in selected secondary schools in Ibadan, Nigeria. *Education Research International* <https://www.hindawi.com/journals/edri/2020/8462368/>
- Olagbaju, O. O. 2015. *Effects of explicit and generative instructional strategies on senior secondary school students' learning outcomes in summary writing in Ibadan metropolis, Nigeria*. An Unpublished Ph.D. thesis, University of Ibadan, Ibadan, Nigeria.
- Olatoye, R. A 2008. Self-concept and science achievement in co-educational and single-sex Junior Secondary School in Ogun State Nigeria. *Review of Higher Education and Self-Learning*, 1 (1), 69-74.
- Olivares, R. A., and Rosenthal, N. 1992. *Gender equity and classroom experience: A review of the research*. New York, NY: Queens College. (ERIC Reproduction Service No. ED366701).
- Oshinkale, Y. 2019. Definition of Mentorship: What Is a Mentor and Do You Need One? World Education Services. <https://www.wes.org/advisor-blog/definition-of-mentorship>.
- Osiki, J. O. 2001. Effects of remedial training programme on the management of learning acquisition defectiveness and poor study habits problems of selected subjects in a community grammar school. *Nigerian journal of applied psychology*, 6(2), 107-115.
- Olszewski-Kubilius, P., and Clarenbach, J. 2012. *Unlocking emergent talent: supporting high achievement of low-income, high-ability students*. Washington, DC: National Association for Gifted Children.
- Olszewski-Kubilius, P. and Thomson, D. 2012. Gifted education programmes and procedures. In I. B. Weiner (Ed.), *Handbook of psychology 2*, 487–510. Hoboken, New Jersey: Wiley Online Library.
- Opendakker, M. C., and Damme J.V. 2006. Teacher characteristics and teaching styles as effectiveness enhancing factors of classroom practice. *Teaching and Teacher Education*, 22, 1-21.
- Pardeck, J. T. 1994. Bibliotherapy. *Contemporary Education*, 65(4), 191.
- Parker, J.G., Rubin, K.H., Erath, S.A., Wojslawwowicz, J.C. and Buskirk, A.R. 2006. *Peer relationships, child development, and adjustment: A developmental psychopathology perspective*. In: Cicchetti D, Cohen DJ, editors. *Developmental psychopathology*. 2nd ed. Hoboken, NJ: John Wiley & Sons, Inc. pp. 419–493.
- Parveen, A. 2008. *Admission Criteria and Subsequent Academic Achievement of General Nursing Diploma Students*.

- Pereira, S., Peters, S., and Gentry, M. 2010. My class activities instrument as used in Saturday ET programme evaluation. *Journal of Advanced Academics*, 21(4), 568–593.
- Pérez, L. 2006. *Alumnos Con Capacidad Superior. Experiencias de intervención educativa*. Madrid: Síntesis.
- Peters, S. J. 2009. Practical instrumentation for identifying low-income, minority, and ethnically diverse students for gifted and talented programmes: The HOPE Teacher Rating Scale. *Unpublished doctoral dissertation*, Purdue University, Indiana.
- Peters, S. J., and Gentry, M. 2012. Group-specific norms and teacher-rating scales: Implications for underrepresentation. *Journal of Advanced Academics*, 23(2), 125-144.
- Pfeiffer, S. I. 2012. “Current Perspectives on the Identification and Assessment of Gifted Students.” *Journal of Psychoeducational Assessment* 30 (1): 3–9.
- Pfeiffer, S. I., and Petscher, Y. 2008. Identifying young gifted children using the Gifted Rating Scales- Preschool/Kindergarten Form. *Gifted Children Quarterly*, 52(1), 19-29.
- Pegnato, C. W., and Birch, J. W. 1959. Locating gifted children in junior high schools: A comparison of methods. *Exceptional Children*, 25, 300–304.
- Pierce, R., and Adams, C. 2005. Using tiered lessons in mathematics. *Mathematics Teaching in the Middle School*, 11, 144–149.
- Pierce, R. L., Adams, C. M., Speirs Neumeister, K. L., Cassady, J. C., Dixon, F.A., and Cross, T. L. 2007. Development of an identification procedure for a large urban school corporation: Identifying culturally diverse and academically gifted elementary students. *Roeper Review*, 29, 113–118.
- Pintrich, P. R., and Zusho, A. 2007. *Student motivation and self-regulated learning in the college classroom*. In R. Perry & J. C. Smart (Eds.), *The scholarship of teaching and learning in higher education: An evidence-based perspective* (pp. 731–810). Netherlands: Springer.
- Pizarro, R. 1985. Rasgos y actitudes del profesor efectivo (Tesis de Maestría). Pontificia Universidad Católica de Chile.
- Plucker, J. A., Hardesty, J., Burroughs, N. 2013. *Talent on the sidelines: Excellence gaps and America’s persistent talent underclass*. Storrs: Center for Education Policy Analysis, University of Connecticut. Retrieved from <http://cepa.uconn.edu/mindthegap>
- Porter, A., McMaken, J., Hwang, J., and Yang, R. 2011. Common core standards: The new U.S. Intended curriculum. *Educational Researcher*, 40(3), 103-116.



- Powell, T. and Siegle, D. 2000. *Teacher bias in identifying gifted and talented students*. The National Research Center on the Gifted and Talented Newsletter, Spring, 13-15.
- Preckel, F., T. Goetz, R. Pekrun, and M. Kleine. 2008. "Gender Differences in Gifted and Average-ability Students: Comparing Girls' and Boys' Achievement, Self-concept, Interest, and Motivation in Mathematics." *Gifted Child Quarterly* 52 (2): 146–159.
- Prospero, M., and Vohra-Gupta, S. 2007. First generation college students: Motivation, integration, and academic achievement. *Community College Journal of Research and Practice*, 31(12), 963-975.
- Ramaswami, A. and Dreher, G. F. 2007. The benefits associated with workplace mentoring relationships. In T. D. Allen & L. T. Eby (Eds.), *Handbook of mentoring*, Oxford, UK: Blackwell.
- Ramón, G. and Leandro, S.A. 2019. *An ET programme for students with high intellectual ability: Positive effects on school adaptation*. *Media Education Research Journal* 60, (5) 39-47.  
<file:///C:/Users/DRGABR~1/AppData/Local/Temp/10.3916-C60-2019-04-english.pdf>
- Rasmussen, J. 2001. The importance of communication in teaching: A systems-theory approach to the scaffolding metaphor. *Journal of curriculum studies*, 33(5), 569-582.
- Regier, J. 2011. Why is Academic Success Important?  
<https://saskschoolboards.ca/wp-content/uploads/2015/08/2011SIAST.pdf>
- Reid, N. 2008. A Scientific approach to the teaching of chemistry, (the royal society of chemistry nyholm lecture, 2006-2007). *Chemistry Education Research and Practice*. 9(1): 51-9.
- Reid, N. 2009. Making science learning accessible, stimulating and enjoyable: what does research evidence tell us? *Journal of Science Education*, 10(1): 43-44.
- Reis, S.M. 1989. Reflections on policy affecting the education of gifted and talented students: Past and future perspectives. *Am. Psychol.* 44, 399–408.
- Reis, S.M. and Purcell, J.H. 1993. An analysis of content elimination and strategies used by teachers in the curriculum compacting process. *J Educ Gifted*. 16(2):147–170.
- Reis, S. and Sullivan, E. 2009. *Characteristics of gifted learners. Consistently varied; refreshingly diverse*. In *Methods and Materials for Teaching the Gifted*; Karnes, F.A., Bean, S.M., Eds.; Prufrock Press Inc.: Waco, TX, USA, pp. 3–35.

- Renzulli, J. S. 1986. The three-ring conception of giftedness: A developmental model for creative productivity. In *Conceptions of Giftedness*; Sternberg, R., Davidson, J.E., Eds.; Cambridge University Press: Cambridge, UK, pp. 53–93.
- Renzulli, J. S. (Ed.) 2004. *Identification of students for gifted and talented programmes*. Thousand Oaks, CA: Corwin Press and the National Association for Gifted Children.
- Renzulli, J. S. 2005. Equity, excellence, and economy in a system for identifying students in gifted education programmes: A guidebook (RM05208). Storrs, CT: The National Research Center on the Gifted and Talented, University of Connecticut.
- Reynolds, A. R., and Walberg, H. J. 1992. A process model of mathematics achievement and attitude. *Journal of Research in Mathematics*, 23, 306-328.
- Richards, J. 2004. Enchanting teachers among us. *Childhood education*, 80(3), 128–133.
- Richards, M.R.E. and Omdal, S.N. 2007. Effects of tiered Instruction on academic achievement in a secondary science course. *Journal of Advanced Academics* 18 (3)4240-453.
- Richardson, A.R. 2008. An examination of teacher qualifications and student achievement in Mathematics. Masters Dissertation, Unpublished. Alabama: Auburn University.
- Richert, S. E. 2015. Equitable identification of students with gifted potential. Topeka, KS: Kansas State Board of Education.
- Richert, E.S., Alvino, J.J. and McDonnel, R.C. 1982. *National report on identification: Assessment and recommendations for comprehensive identification of gifted and talented youth*, Sewell, NJ: Educational Improvement Center-South.
- Rimm, S.B.2003. Underachievement: A National Epidemic. In *Handbook of Gifted Education*; Colangelo, N., Davis, G.A., Eds.; Allyn and Bacon: Boston, MA, USA, pp. 424–443.
- Rimm- Kaufman, S. and Sandilos, L. 2012. Improving students' relationships with teachers to provide essential supports for learning. Retrieved 03 February, 2020 from <http://www.apa.org/education/k12/relationships.aspx?item=1#>
- Rink, J. E. 2013. Measuring teacher effectiveness in physical education. *Research Quarterly for Exercise and Sport*, 84(4), 407-418.
- Rink, J. E., and Hall, T. J. 2008. Research on effective teaching in elementary school physical education. *The Elementary School Journal*, 108(3), 207-218.

- Robinson, G. J. 1998. *Classroom practices with high achieving students: A national survey of middle school teachers*. Ph.D. diss., University of Connecticut, Storrs.
- Rockoff, J. E., and Speroni, C. 2010. Subjective and objective evaluations of teacher effectiveness. *American Economic Review*, 261–266.
- Rockoff, J. E., Staiger, D. O., Kane, T. J., and Taylor, E. S. 2012. Information and employee evaluation: evidence from a randomized intervention in public schools. *American Economic Review*, 102(7), 3184–3213.
- Rojas, L. E. 2005. Influencia del entorno familiar en el rendimiento de niños y niñas con diagnóstico de maltrato de la escuela Calarca de Ibagué. Pontificia Universidad Javeriana. Recuperado de <http://www.javeriana.edu.co/biblos/tesis/medicina/tesis24.pdf>
- Rodrigues, J. V. L. 2001. Representações do sucesso, em contexto escolar (em professores). Curso de Pós graduação em Ciências da Educação / Administração Escolar, Secção autónoma de Ciências Sociais Aplicadas, Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa.
- Rodríguez-Naveiras, E., Cadenas, M., Borges, A. and Valadez, D. 2019. Educational responses to students with high abilities from the parental perspective. *Front Psychol.* 10: 1187.
- Rodríguez-Dorta, M., Rodríguez-Naveiras E. and Borges del Rosal, A. 2017. *Los programmeas para progenitores: evaluación de los dos niveles del Programmea Encuentros*, in Comunicación Presentada as III Jornadas Internacionales Sobre Panorámica de Intervención en Altas Capacidades Intelectuales (La Laguna: )
- Rono, K., Onderi, H., Owino, J. 2014. Perceptions of causes of poor academic achievement amongst selected secondary schools in Kericho Sub-County: Implications for school management.
- Roth, A. E. 1984. The evolution of the labor market for medical interns and residents: a case study in game theory', *Journal of Political Economy*, 92(6), 991–1016
- Rothenbosch, S., Zettler, I., Voss, T. and Loesch, T. 2015. Exploring Reference Group Effects on Teachers' Nominations of Gifted Students. *Journal of Educational Psychology* 108(6), 1- 48.
- Rothenbusch, S.; Voss, T. and Golle, J. 2018. Linking Teacher and Parent Ratings of Teacher-Nominated Gifted Elementary School Students to Each Other and to School Grades. *Gifted Child Quarterly* 62 (2), 12-25.
- Rotigel, J. V. 2003. Understanding the young gifted child: Guidelines for parents, families, and educators. *Early Childhood Education Journal*, 30(4), 209-214.

- Rowe, K. 2004. *The importance of teaching: ensuring better schooling by building teacher capacities that maximize the quality of teaching and learning provision – implications of findings from the international and Australian evidence-based research*. Paper presented at the Making Schools Better, Melbourne, VIC. [http://research.acer.edu.au/learning\\_processes/14](http://research.acer.edu.au/learning_processes/14)
- Rubenzler, R. L., and Twaite, J. A. 1979. Attitudes of 1,200 educators toward the education of the gifted and talented: Implications for teacher preparation. *Journal for the Education of the Gifted*, 2, 202–213.
- Rudman, M. K., Gagne, K. D., and Bernstein, J. E. 1993. Books to help a child cope with separation and loss: An annotated bibliography (4th ed.). Bowker.
- Ryan, R. M. 1995. Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63, 397-427.
- Ryan, R. 2009. *Self-determination Theory and Wellbeing*, University of Bath.
- Ryan, R. M., Deci, E. L., Grolnick, W. S., and LaGuardia, J. G. 2006. *The significance of autonomy and autonomy support in psychological development and psychopathology*. In D. Cicchetti & D. Cohen (Eds.) *Developmental Psychopathology: Volume 1, Theory and Methods* (2nd Edition, pp. 295- 849). New York: John Wiley & Sons.
- Ryan, R. M., and Deci, E. L. 2000. Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Ryan, R. M., and Deci, E. L. 2001. To be happy or to be self-fulfilled: A review of research on hedonic and eudaimonic well-being. In S. Fiske (Ed.), *Annual Review of Psychology*, 52; 141-166. Palo Alto, CA: Annual Reviews/ Inc.
- Ryser, G. R. 2011. *Fairness in testing and nonbiased assessment*. In Johnsen, S. K. (Ed.), *Identifying gifted students: A practical guide* (2nd ed.) (pp. 63-74). Waco, TX: Prufrock Press.
- Sabo, K. 2004-2020. *The value of ET activities*. Home Educators Resource Directory. <http://www.homeeddirectory.com/blog/value-ET-activities>
- Salami, S. O. 2011. Psychosocial predictors of adjustment among first year college of education students. US – China.
- Sangeeta, C. 2012. A study of adjustment problems of college students in relation to gender, socio-economic status and academic achievement. *International Journal of Social & Movement Sciences*, 1(2) 20-27.
- Sapon-Shevin, M. 1996. *Including all students and their gifts within regular classrooms*. In W. Stainback & S. Stainback (Eds.). *Controversial Issues in Confronting Special Education: Divergent Perspectives*, 57- 68.

- Sarouphim, K. M. 1999. Discover: A new promising alternative assessment for the identification of gifted minorities. *Gifted Child Quarterly* 43(4): 244–51.
- Sastre-Riba, S. 2008. Niños con altas capacidades y su funcionamiento cognitive diferencial. *Rev. Neurol.* 46, 11–16.
- Sastre-Riba S., and Ortiz, T. 2018. Neurofuncionalidad ejecutiva: estudio comparativo en las altas capacidades. *Rev. Neurol.* 66, 51–56. ``
- Sastre-Riba, S., Viana-Sanz, L. 2016. Funciones ejecutivas y capacidad intelectual. *Rev. Neurol.* 62, 65–71.
- Scager, K., Akkerman, S.F., Pilot, A., and Wubbels, T. 2014. Challenging high-ability students. *Studies in Higher Education*, 39(4), 659-679.
- Scandura, C. A., Gavin, M. B., and Williams, E. A. 2009. Understanding team-level career mentoring by leaders and its effects on team-source learning: The effects of intra-group processes. *Human relations*, 124-147.
- Schroth, S. T., and Helfer, J. A. 2008. Identifying gifted students: Educator beliefs regarding various policies, processes, and procedures. *Journal for the Education of the Gifted*, 32(2), 155-179.
- Schunk, D., Pintrich, P., and Meece, J. 2008. *Motivation in education: Theory, research, and applications.*
- Scott, S. 2012. Meaning of academic. [http://www.ehow.com/about\\_6398585\\_meaning-academic](http://www.ehow.com/about_6398585_meaning-academic)
- Sebring, D., and Tussey, D. 1992. *Local administration of programmes for gifted and talented.* (ERIC Document Reproduction Service. (ED344412).
- Searle, W. and Ward, T. 2012. The predication of psychological and sociocultural adjustment, during cross-cultural transitions. *International Journal Of Inter Cultural Relations* 16(4), 499-464.
- Shadiow, Linda 1996. Remembering a mentor. *Clearinghouse*, 69 (5), 277-79.
- Sheldon, S. B. 2009. *In School, family, and community partnerships: Your handbook for action.* (3rd ed.). USA: Corwin Press.
- Siegle, D. 2001. *Teacher bias in identifying gifted and talented students.* Paper presented at the Annual Conference of the American Psychological Association, Washington, DC.
- Siegle, D. and Powell, T. 2004. Exploring teacher biases when nominating students for gifted programmes. *Gifted Child Quarterly*, 48, 21–29.

- Siegle, D., Moore, M., Mann, R. L., and Wilson, H. E. 2010. Factors that influence in-service and preservice teachers' nominations of students for gifted and talented programmes. *Journal for the Education of the Gifted*, 33, 337-360.
- Silverman, L. 2002. *Upside-down brilliance: The visual-spatial learner*, Under the Title, "Making Quick Work of Math Facts," 302-305. Denver: DeLeon
- Sincero, S.M. 2008-2019. *Ecological systems theory*. Explorable.com  
<https://explorable.com/ecological-systems-theory>
- Singh, S. P., Malik, S., and Singh, P. 2016. Research paper factors affecting academic achievement of students. *Indian Journal of Research*, 5(4), 176-178.
- Sisk, D.A. 1988. The bored and disinterested gifted child: going through school lockstep. *Journal of Educated Gifted*. 11(4):5–18.
- Sisk, D. 1989. *Creative Teaching for the Gifted*. New York, NY: McGraw-Hill.
- Skinner, E. and Greene, T. 2008. *Perceived control, coping, and engagement*. In T. L. Good 21st Century Education: A Reference Handbook (Vol. 2, pp. I-121-I-130). Thousand Oaks, CA: SAGE Publications Ltd. doi: 10.4135/9781412964012.n13
- Slavin, R. E., and Madden, N. A. 2006. Reducing the gap: Success for all and the achievement of African American students. *The Journal of Negro Education*, 389- 400.
- Slovenia, 2009. ET programmes. Primary School Rodica, Kettejeva str.13, 1230 Domžale <http://www.oecd.org/education/ceri/49768501.pdf>
- Sousa, D. 2009. *How the gifted brain learns*. California: Corwin/Sage Company.
- Southern, W. T. and Jones, E. D. 2004. *Types of acceleration: Dimensions and issues*, in *A Nation Deceived: How Schools Hold Back America's Brightest Students*, eds Colangelo N., Assouline S. G., Gross M. U. M. (Washington, DC: National Association for Gifted Children), 5–12.
- Speirs Neumeister, K. L., Adams, C. M., Pierce, R. L., Cassady, J. C., and Dixon, F. A. 2007. Fourth-grade teachers' perceptions of giftedness: Implications for identifying and serving diverse gifted students. *Journal for the Education of the Gifted*, 30, 479–499.
- Spilt, J. L., Koomen, H. M., Y., and Thijs, J. T. 2011. Teacher well-being: The importance of teacher-student relationships. *Educational Psychology Review*, 23(4), 457-477. doi:<http://dx.doi.org/goucher.idm.oclc.org/10.1007/s10648-011-9170-y>
- Spinath, B. 2012. Academic achievement. In *Encyclopedia of human behavior*. 2d ed. Edited by Vilanayur S. Ramachandran, 1–8. San Diego, CA: Academic Press.

- Stanley, J. C. 1976. Identifying and nurturing the intellectually gifted. *Phi Delta Kappan*. 58(3):234–237.
- Stamps, L. 2003. Bibliotherapy: How books can help students cope with concerns and conflicts. *Delta Kappa Gamma Bulletin*, 70(1), 25-29.
- State Government of Victoria 2019. Characteristics of high-ability. From: [education.vic.gov.au/school/teachers/teachingresources/high-ability-toolkit/Pages/characteristics-of-high-ability.aspx](http://education.vic.gov.au/school/teachers/teachingresources/high-ability-toolkit/Pages/characteristics-of-high-ability.aspx)
- State Government of Victoria 2019. *Defining high-ability*. From <https://www.education.vic.gov.au/school/teachers/teachingresources/high-ability-toolkit/Pages/defining-high-ability.aspx>
- State of the Queensland Department of Education, 2019. *Every student with disability succeeding: Parent and community engagement*. Department of Education.
- Steinbach, J.H. 1981. Neuromuscular junctions and alpha-bungarotoxin-binding sites in denervated and contralateral cat skeletal muscles. *The Journal of Psychology*, 8  
<https://doi.org/10.1113/jphysiol.1981.sp013679>
- Stepanek, J. 1999. *The inclusive classroom. Meeting the needs of gifted students: differentiating mathematics and science instruction*. Portland (OR): Northwest Regional Education Laboratory; 1999.
- Steinmayr, R, Meißner, A Weidinger, A. F. and Wirthwein, L. 2017. *Academic Achievement*. Oxford Bibliographies.
- Stephens, K. R., and F. A. Karnes. 2000. State definitions for the gifted and talented revisited. *Exceptional Children* 66(2): 219–38.
- Sternberg, R. J. 2003. *Giftedness according to the theory of successful intelligence*. In *Handbook of gifted education*, 3rd ed., ed. N. Colangelo and G. A. Davis, 55–60. Boston: Allyn & Bacon.
- Sternberg, R. J., and Davidson, J. E. 2005. *Conceptions of giftedness* (2nd ed.). New York: Cambridge University Press.
- Sternberg, R. J. and Zhang, L. 1995. What do we mean by giftedness? A pentagonal implicit theory. *Gifted Child Quarterly*, 39, 88–94.
- Sternberg, R. J., Jarvin, L., and Grigorenko, E. L. 2011. *Explorations in giftedness*. New York, NY: Cambridge University Press.
- Stroet, K., M. C. Opdenakker, and A. Minnaert. 2013. Effects of Need-Supportive Teaching on Early Adolescents' Motivation: A Review of the Literature. *Educational Research Review* 9: 65–87.

- Stroet, K., M. Opdenakker, and A. Minnaert. 2015. Need-supportive Teaching in Practice: A Narrative Analysis in Schools with Contrasting Educational Approaches". *Social Psychology in Education*.
- Stroet, K., M. C. Opdenakker, and A. Minnaert. 2013. Effects of Need-Supportive Teaching on Early Adolescents' Motivation: A Review of the Literature. *Educational Research Review* 9: 65–87.
- Subotnik, R. F., Olszewski-Kubilius, P., and Worrell, F. C. 2011. Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological Science in the Public Interest*, 12, 3–54.
- Sui-Chu, E.H., and Willms, J.D. 1996. Effects of parental involvement on eighth-grade achievement, *Sociology of Education*, 69 (2), 126-141.
- Suny, B. 2014. Differences between independent study and directed study. [https://www.brockport.edu/support/policies/adopted/emsa\\_registration\\_differences\\_between\\_independent\\_directed\\_study.html](https://www.brockport.edu/support/policies/adopted/emsa_registration_differences_between_independent_directed_study.html)
- Swap, S. M. 1993. *Developing home-school partnerships*. New York: Teachers College Press.
- Swiatek, M.A. 2007. The talent search model: Past, present, and future. *Gifted Child Quarterly*, 51, 320-329.
- Sylva, K., Siraj-Blatchford, I., Melhuish, E. C., Sammons, P., Taggart, B., Evans, E., Dobson, A., Jeavons, M., Lewis, K., Morahan, M. and Sadler, S. 1999, *The Effective Provision of PreSchool Education (EPPE) Project: Technical Paper 6 - Characteristics of the Centres in the EPPE Sample: Observation Profiles*. London: DfEE / Institute of Education, University of London.
- Taber, K. S. 2007. *Enriching School Science for the Gifted Learner*. London: Gatsby Science Enhancement Programme.
- Tannenbaum, A. J. 2003. *Nature and nurture of giftedness*. In *Handbook of gifted education, 3rd ed.*, ed. N. Colangelo and G. A. Davis, 45–59. Boston: Allyn & Bacon.
- The Council for Exceptional Children, 1990. *Designing community-based instruction. Research brief for teachers*. Reston, V.A. Author.
- TheSchoolRun, 2020. Support your child's learning journey. <https://www.theschoolrun.com/what-is-ET>
- TheSchoolRun 2022. What is ET? <https://www.theschoolrun.com/what-ET>.
- Tinajero, C. and Paramo, M. 1997. Field dependence-independence and academic achievement: a reexamination of their relationship. *British Journal of Educational Psychology*. 67(2): 199-212.



- Tomlinson, C. A. 1995. *How to Differentiate Instruction in mixed ability classrooms*, Alexandria, VA: ASCD.
- Tomlinson, C. A. 2004. Differentiation in diverse settings. *School Administrator* 61(7): 28–33.
- Tongue, C. and Sperling, C. 1976. *Gifted and talented: An identification model*, Raleigh, NC: State Department of Public Instruction.
- Tourón, J. 2012. *El agrupamiento por capacidad. El caso de los alumnos más capaces*. In VVAA Liber Amicorum en honor del profesor Arturo de la Orden, Madrid.
- Tracey, T. J., and Sedlacek, W. E. 1982. Non-Cognitive Variables in Predicting Academic Success by Race.
- Tracey, H. and Ge, V. 2004. *Curriculum Modification*. The National Center on Accessible Educational Materials. Nari Koga and Stephanie Silva, Boston College Pp. 1-39.
- Trautwein, U., Lüdtke, O., Marsh, H. W., Köller, O. and Baumert, J. 2006. Tracking, grading, and student motivation: Using group composition and status to predict self-concept and interest in ninth-grade mathematics. *Journal of Educational Psychology*, 98, 788–806.
- Udeji, A. U. 2007. *Effects of Concept Mapping on Secondary School Students' Achievement and Interest in Biology*. Unpublished M.Sc (Ed) Thesis, ESUT
- Udoh, A. O. 2012. Learning environment as correlates of chemistry students' achievement in Secondary Schools in Akwa Ibom State of Nigeria. *International Multidisciplinary Journal, Ethiopia* 6 (3), 26, 208-217.
- University of California, 2018. There are three types of mentoring.  
<https://hr.ucdavis.edu/departments/learning-dev/toolkits/mentoring/types>
- Van den Bergh, L. and Ros, A. 2014. Improving teacher feedback during active learning effects of a professional development programme. *American Education Research Journal*, 51(4): 772-809.
- Vansteenkiste, M., Lens, W., and Deci, E. L. 2006. Intrinsic versus extrinsic goal-contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist*, 41, 19-31.
- Van Tassel-Baska, J. 2013. Curriculum for the gifted. A commitment to excellence. *Gifted Child Today* 36, 213–240.
- Van Tassel-Baska, J., and Brown, E. 2007. Toward best practice: An analysis of the efficacy of curriculum models in gifted education. *Gifted Child Quarterly*, 51(4), 342- 358.

- Varga, M. 2017. *The effect of teacher-student relationships on the academic engagement of students*. Graduate Programmes in Education Goucher College.
- Verche, E., Pérez, J., Borges, A., Galeano, D., and Serrano, A. 2018. *Diferencias en flexibilidad cognitiva y creatividad entre alumnado de altas capacidades y un grupo control*, in Comunicación presentada en el V Congreso Internacional en Contextos Psicológicos, Educativos y de la Salud (Madrid: ).
- Verloop, N. 2005. *De leraar* [The Teacher]. In *Onderwijskunde* [Educational Studies], edited by N. Verloop, and J. Lowyck (195–234). Groningen: Noordhoff Uitgevers.
- Véronneau, M.-H., and Vitaro, F. 2007. Social experiences with peers and high school graduation: A review of theoretical and empirical research. *Educational Psychology*, 27(3), 419–445.
- Victorian Institute of Teaching. 2017. *Australian Professional Standards for Teachers*. Melbourne, VIC: Victorian State Government Retrieved from <http://www.vit.vic.edu.au/registered-teacher/standards/apst>
- Von Stumm, S. Hell, B.; Chamorro-Premuzic, T. 2011. "The Hungry Mind: Intellectual Curiosity Is the Third Pillar of Academic Achievement". *Perspectives on Psychological Science*. 6 (6):574–588. [doi:10.1177/1745691611421204](https://doi.org/10.1177/1745691611421204).
- Vygotsky, L. 1978. *Mind in society: The development of higher psychological processes*. London: Harvard University Press.
- Ward, A, Stocker, H.W and Murray-ward, M.C. 2006. Achievement and ability tests definition of the domain. Retrieved, June 7, 2011, from <http://www.en.wikipedia.org/wiki/academic>.
- Wachs, T.D., 2000. Nutritional deficits and behavioural development. *International Journal of Behavioural Development*, 20, 225–250.
- Walberg, H. J. 1986. *Synthesis of research on teaching*. In M. C. Wittrock (Ed.), *Handbook of research on teaching* 3rd ed. (pp. 214-229). New York: Macmillan.
- Walberg, H. J. 1981. *A psychological theory of educational productivity*. In F. H. Farley & N. Gordon (Eds.), *Psychological and Education* (pp. 81-110). Chicago: National Society for the Study of Education.
- Walberg, H. J., Fraser, B. J., and Welch, W. W. 1986. A test of a model of educational productivity among senior high school students. *Journal of Educational Research*, 79, 133-139).

- Walker, R.A 2010. Socioculturalism issues in motivation. *International Encyclopedia of Education (Third Edition)*.
- Wang, M. C., Haertel, G. D., and Walberg, H. J. 1993. Toward a knowledge base for school learning. *Review of Educational Research*, 63, 249- 294.
- Wang, M. C., Haertel, G. D., and Walberg, H. J. (1997). Toward a knowledge base for school learning. *Review of Educational Research*, 63, 249- 294.
- Ward, A., Howard W. S. and Murray-Ward, M. 1996, "*Achievement and Ability Tests - Definition of the Domain*", *Educational Measurement*, 2, University Press of America, pp. 2–5.
- Waterford, 2018. *How parent involvement leads to student success*  
<https://www.waterford.org/education/how-parent-involvement-leads-to-student-success/>
- Watson, M. V. 2000. *Classroom interactions: The role of gender in algebra classes* (Unpublished master's thesis). Boise State University, Boise, ID.
- Weber, P. 1999. Mental models and the identification of young gifted students: A tale of two boys. *Roeper Review*, 21, 183–188.
- Weber, C. and Stanley, L. 2012. Educating parents of gifted children: designing effective workshops for changing parent perceptions. *Gifted Child Today*, 35, 129-136.
- Wentzel, K. R. 2003. Sociometric status and adjustment in middle school: A longitudinal study. *Journal of Early Adolescence*. 23:5–28.
- West African Examinations Council, 2018. *WAEC Chief Examiners' Report for the West African Senior School Certificate Examination (WASSCE)*, WAEC Press, Lagos, Nigeria.
- Westberg, K. L. 2012. *Using teacher rating scales in the identification of students for gifted services*. In Hunsaker, S. L. (Ed.), *Identification: The theory and practice of identifying students for gifted and talented education services* (pp. 363-379). Mansfield Center, CT: Creative Learning Press.
- Westberg, K. L., and Daoust, M.E. 2003. *The results of the replication of the classroom practices survey replication in two states*. The National Research Center on the Gifted and Talented Newsletter Fall: 3–8. Available at: [www.gifted.uconn.edu/nrcgt/newsletter/fall03/fall032.html](http://www.gifted.uconn.edu/nrcgt/newsletter/fall03/fall032.html).
- Wenglinsky, H. 2000. *How teaching matters: Bringing the classroom back into discussion of teacher quality policy*. Princeton, NJ: Educational Testing Services.

- Whitaker, T., and Fiore, D. 2001. *Dealing with difficult parents*. Larchmont, NY: Eye on Education.
- Whittle, R. J., Telford, A., and Benson, A. C. 2018. Teacher's Perceptions of how they Influence Student Academic Achievement in VCE Physical Education. *Australian Journal of Teacher Education*, 43(2), 1-25.
- Whitton, D. 1997. Regular classroom practices with gifted students in grades 3 and 4 in New South Wales, Australia. *Gifted Education International* 12(1): 34–38
- Wigfield, A., and Eccles, J. S. 2000. Expectancy–value theory of achievement motivation. *Contemporary educational psychology*, 25(1), 68-81.
- Wild, K. P. 1993. *Hochbegabendiagnostik durch Lehrer*. In D.H. Rost (Hrsg.). *Leben sum welt analyse hochbegabter Kinder* (S. 236261). Göttingen: Hogrefe.
- Wiley, D. and Yoon, B. 1995. Teacher reports of opportunity to learn analyses of the 1993 California learning assessment system. *Educational Evaluation and Policy Analysis*, 17 (3), 355 -370.
- Williams, D. and Wavell C. 2001. *The impact of school library resource centre on learning*. Aberdeen: The Robert Gordon University.
- Williams, R. 2002. *Multiple intelligences for differentiated learning*. Thousand Oaks, CA. Corwin.
- Wiley, D. and Yoon, B. 1995. Teacher reports of opportunity to learn analyses of the 1993 California learning assessment system. *Educational Evaluation and Policy Analysis*, 17(3), 355 -370.
- Willcox, M. R. 2011. Factores de riesgo y protección para el rendimiento académico: Un estudio descriptivo en estudiantes de Psicología de una universidad privada. *Revista Iberoamericana de Educación*, 55(1), 1-9. Recuperado de <http://www.rioei.org/deloslectores/3878Wilcox.pdf>
- Winebrenner, S. and Brulles, D. 2012. *Teaching Gifted Students in Today's Classroom*. Minneapolis, MN: Free Spirit Publishing. p. 86 ISBN 978-1-57542-664-8. Retrieved 25 May 2013.
- Winga, M. A., Agak, H. and Ayere, A. M. 2011. The relationship among school adjustment gender, and academic achievement amongst secondary school students in Kisumu district Kenya. *Journal of emerging trends in educational research studies*, 2 (6), 493-497.
- Wing-Yi, C., Rebecca, L. and Shui-Fong, C. C. J. 2008. When high achievers and low achievers work in the same group: The roles of group heterogeneity and processes in project– based learning. (EJ797178). *British Journal of Educational Psychology*, 78(2), 205-221.

- Women and Families Center, 2020. Top 5 reasons why school needs education ET programmes. <https://womenfamilies.org/education-ET-programmes-needs/>
- Wong, M. 2013. *Teacher qualification and student academic achievement*. From <<http://www.studymode.com/essays/Teacher-Qualification-And-Student-Academic-Achievement-1704810.html>> (Retrieved on 05 March 2014).
- Wood, D. 1996. Vygotsky, tutoring and learning. *Oxford review of education*, 22(1), 5-16.
- Woolfolk, A. 2007. *Educational psychology*. 10th ed. Boston: Pearson.
- Wortham, S. 2008. *Assessment in Early Childhood Education* (5th ed.). New Jersey: Pearson.
- Yang, W. 2007. Gifted or not, parental perceptions are the same: a study of Chinese American parental perceptions of their children's academic achievement a home environment. *Diaspora, Indigenous, and Minority Education: Studies of Migration, Integration, Equity, and Cultural Survival*, 3, 217-234
- York, T. T., Gibson, C., and Rankin, S. 2015. Defining and measuring academic success. *Practical assessment, research, and evaluation*, 20(1), 5.
- Yusuf, A. 2004. *Effects of cooperative and competitive instructional strategies on junior secondary school students achievement in social studies, in Ilorin, Nigeria*. Unpublished Ph.D. Thesis, Curriculum Studies and Educational Technology, University of Ilorin, Nigeria.
- Yusuf, M. O., Gambari, A.I. and Olumorin, C. O. 2012. Effectiveness of computer-supported cooperative learning strategies in learning physics. *International Journal. Soc. Sci. Education*, 2(2), 94-109. Available online at <http://www.ijssse.com>
- Zimmerman, B. 2008. Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. *American Educational Research Journal*, 45, 166–183.
- Zimmerman, B. J., and Schunk, D. H. 2008. *Motivation: An essential dimension of self-regulated learning*. In D. H. Schunk & B. J. Zimmerman (Eds.), *Motivation and self-regulated learning: Theory, research, and applications* (pp. 1–30). Mahwah, NJ: Erlbaum.
- Zins, J. E., Weissberg, R. P., Wang, M. C., and Walberg, H. J. (Eds.). 2004. *Building academic success on social and emotional learning: What does the research say?* Teachers College Press.

**APPENDIX I**  
**HIGH-ABILITY ENGLISH LANGUAGE AND MATHEMATICS**  
**ACHIEVEMENT SCREENING TESTS (HAELAS)**

Dear Respondent,

I am a doctorate degree student of the above-named university. I will appreciate it if you can accurately fill this test. It is solely for research purpose.

Your cooperation is highly solicited.

Yours Sincerely,

**Ibeabuchi Glory Ifeyinwa**

**ENGLISH LANGUAGE**

Choose the answer to questions 1 to 2 that most closely matches the meaning of the words or phrases in bold and italics.

1. He **took exception** with Ade's comment.,  
(a) was pleased at (b) was eager by (c) got discouraged by (d) opposed to
  
2. The management frequently fights with his employees because **he has a grudge**.  
(a) distorted shoulder (b) readiness to be infuriated (c) look of disdain (d) an air of dominance.

Choose the word or phrase that most closely matches the meaning of the underlined words in questions 3 to 4 from the available options.

3. Tola **talks excessively**, which I find unpleasant.  
A. gloomy    B. relaxed    C. brief    D. dumb
  
4. The researcher holds **parochial** opinions on all issue.  
A. realistic    B. sensible    C. rational    D. popular

Questions 5 to 10 choose the word which fits the gap best

5. He is a young man of.....character  
(a) staple    (b) stable    (c) permanent    (d) transient
  
6. Because armed robbers are constantly intimidating the public, guards on duty all night have been told to shoot ..... anything that moves.  
A. at sight    B. by sight    C. insight    D. off sight
  
7. I got to know him only recently so I cannot.....for his honesty  
(a) speak    (b) sign    (c) vouch    (d) stand

8. Last Sunday, my wife and I were supposed to commemorate our silver wedding anniversary. Unfortunately on that .....day  
 A. unproductive      B. faithful      C. pointless      D. fateful
9. He had since taken over the ..... of power.  
 (a) reins      (b) rains      (c) reigns      (d) relms
10. The judge restrained the landlord from the tenant,  
 (a) removing      (b) sacking      (c) dismissing      (d) ejecting
- Choose from the options that are provided the **form of the verb which agrees** with the subject of the sentence.
11. Each man and woman \_\_\_\_ given a price.  
 A. were      B. are      C. was      D. are being
12. Every student and teacher \_\_\_\_ ten naira every week  
 A. contribute      B. were contributing      C. are contributing      D. contributes
13. Tolu or Femi \_\_\_\_\_ expected at the occasion  
 A. are      B. were      C. is      D. are being
14. Neither Johnny nor David \_\_\_\_\_ the solution  
 A. have      B. has      C. are having      D. have had
15. Not only the manager but also the secretary \_\_\_\_\_ detained.  
 A. were      B. have      C. was      D. are

## MATHEMATICS

- The average driving time between Lagos and Ibadan is 1 hour and 3 minutes. The driver can cut 15 minutes off his travel time by increasing his average speed by 20 km/h. His usual speed, in km/hr is  
(a) 100 (b) 90 (c) 85 (d) 80
- Peter, Paul, and Audu each received two, three, and five pencils, respectively. What percentage of Peter's five were shared?  
(a) 15 (b) 25 (c) 30 (d) 50 (e) 55
- Each angle in a regular polygon is  $160^\circ$ . How many sides does the polygon have?  
(a) 36 (b) 9 (c) 18 (d) 20
- A girl travels 30 metres on a  $040^\circ$  bearing from point P to point Q. She then makes a 30 m walk on a  $140^\circ$  bearing to a point R. R is pointing away from P by  
(a)  $90^\circ$  (b)  $50^\circ$  (c)  $45^\circ$  (d)  $40^\circ$
- If no integer appears twice in a number, how many different three-digit numbers may be created using the integers 1 to 6?  
(a) 24 (b) 120 (c) 60 (d) 48
- How many years will it take for a sum of money to double if it earns 8% simple interest?  
(a) 8 years (b) 10.5 years (c) 12 years (d) 12.5 years
- A businessman put N200,000 into two companies that paid out 5% and 7% dividends, respectively. How much of his whole N11,600 investment at 5% did he make?  
(a) N160,000 (b) N140,000 (c) N120,000 (d) N80,000
- The remainder obtained by multiplying  $2x^3 + 25x + 1$  by  $x + 3$  is?  
(a) -3 (b) 47 (c) 61 (d) -47
- Eight pupils take chemistry, nine take economics, and twenty-five take government in a class where 37 individuals take at least one of each subject. No one takes Chemistry and Economics, yet 12 students study Government and Economics. How many students study both government and chemistry?  
(a) 3 (b) 4 (c) 5 (d) 6
- The following equation in base two needs to have p solved for:  $11(p+110) = 1001p$



- (b) 10 (b) 11 (c) 110 (d) 111
11. A sphere's volume is mathematically equal to double its surface area. The sphere's diameter is:  
(a) 6 (b) 9 (c) 12 (d)  $\sqrt{6}$
12. What is  $x$  in base 3 if  $41_x - 22_x = 17_x$   
(a) 11 (b) 8 (c) 12 (d) 22
13. In a class of  $x$  students, the average age is 14 years and 2 months. The average age of the class rises by one month as a student who is 15 years and 2 months old enters the group. Find  $x$ .  
(a) 12 (b) 6 (c) 11 (d) 14
14. Which of the below defined sets of information is not required in order to create a triangle?  
(a) three angles (b) two sides and a right angle  
(c) two sides and an included angle (d) three sides
15. A family's three children are nine years old on average. If their parent's average age is 39, the family's average age is as follows:  
(a) 20 years (b) 21 years (c) 24 years (d) 27 years

**APPENDIX II**  
**TIERED INSTRUCTION (TI) SCALE**  
**UNIVERSITY OF IBADAN, IBADAN**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Highest level of education of father-----

Highest level of education (Mother)-----

Father's work-----

Mother's work-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000 (iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B: TIERED INSTRUCTION (TI) SCALE**

**Directions: This Section B, deals with tiered instruction enrichment programme for high ability students.** Please respond by considering how well each statement applies to you.

In the context of this research, differentiated instruction or assignments primarily address differences in student preparation and accomplishment levels, enabling students' progress towards a particular goal or objective by building on their prior knowledge and encouraging continuous improvement.

Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3) Strongly agree (4)**

S/N	ITEMS	SD	D	A	SA
1	The curriculum and the HAS's learning needs form the basis of instruction.				
2	Students' learning objectives are modified in accordance with their needs.				
3	For HAS, teachers emphasise analytical and creative activity.				
4	According to their learning requirements and capabilities, teachers pair HAS with particular informative resources.				
5	HAS are permitted to advance at their own pace and according to levels of readiness.				
6	A more enjoyable learning environment and the need to self-regulate				
7	As teachers provide a variety of techniques to demonstrate learning, variations are accepted.				
8	HAS a preference for a classic lesson structure in which everyone moves in unison.				
9	HAS favours levelled lectures so that each student can advance at their own pace.				
10	Learning mathematics has been more enjoyable for me because I can go at my own pace.				
11	Learning English has been comfortable for me because I can go at my own speed.				
12	By controlling my own levels, I become more eager to learn.				
13	I feel more proud of myself if I put a lot of effort into level one and advance.				
14	Levelled lessons help me push myself and relieve strain.				
15	Because I'm a competitive type, levelled lessons encourage me to work extremely hard.				
16	I can't work with her buddies because of the levelled classes.				
17	Prior to starting a topic, it's critical to assess a student's skills and learning styles.				
18	When implementing TI, teachers assign students to groups based on their skill levels and continually assess students' development.				
19	In TI, a good assessment approach is helpful for determining the needs and accomplishments of students.				
20	HAS ought to be permitted to select activities in accordance with their interests.				

**APPENDIX III**  
**INDEPENDENT STUDY (IS) SCALE**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Father's highest academic degree-----

Mother's highest academic degree -----

Occupation of parents (Father and Mother)-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000  
(iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B**

**Directions: This Section B deals with independent study enrichment programme for high ability students.** Please respond by considering how well each statement applies to you. For the purposes of this course, independent study gives the student the chance to conduct topic-specific research under the instructor's direction for a predetermined period of time and credit. Compared to what would be feasible in a typical course or class, the student learns more deeply and independently.

Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3)**

**Strongly agree (4)**

S/N	ITEMS	SD	D	A	SA
1	IS links fundamental critical thinking abilities to HASSS participants' interests and preparation level.				
2	IS calls for original thought and the creation of new concepts.				
3	HASSS can learn independently because to IS.				
4	IS presents HAS with a learning difficulty.				
5	IS gives me the chance to create my own learning plans.				
6	IS offers HASSS a beneficial learning alternative to the standard schedule.				
7	I enjoy learning more about and studying my own subject.				
8	IS enables me to select a study's topic that interests me.				
9	IS pushes me to respect independent learning.				
10	My own research enables me to identify and address practical issues.				
11	The self-study is made exciting by the use of a computer for research.				
12	The study becomes factual and important when there is a chance to deliver the findings to an audience.				
13	HAS gained a lot of knowledge through solo study.				
14	Independent study allows me to effectively manage my time.				
15	Independent study may be enriching and hard at the same time.				
16	For HASSS, IS promotes individuality and subject depth.				
17	The choice of content by pupils is made more autonomously because to IS.				
18	The course and results of learning are within the control of HASSS.				
19	IS gives HASSS advice and feedback on a difficult task.				
20	IS is helpful for identifying new challenges and solving communal problems.				

**APPENDIX IV**  
**ONE ON ONE MENTORSHIP (OM) SCALE**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Father's highest academic degree-----

Mother's highest academic degree -----

Occupation of parents (Father and Mother)-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000  
(iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B**

**Directions: This Section B deals with one on one SM programme for high ability students.** Please respond by considering how well each statement applies to you.

For the purposes of this study, one-on-one mentoring refers to a mentoring relationship between one mentor and one mentee with the goal of providing guidance and support, often in the mentor's area of expertise.

Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3) Strongly agree (4)**

S/N	ITEMS (My mentor...)	SD	D	A	SA
1	Has shared history of his/her life and career with me.				
2	Has been encouraging me to prepare for advancement.				
3	Encourages me to try new methods in my study.				
4	Behaviour is good for me to imitate				
5	Has attitude and values regarding education that I agree with.				
6	Is someone I respect and admire.				
7	Is the one I will like to be like when I reach a similar position				
8	Usually demonstrates good listening skills.				
9	Has discussed concerns regarding competence with me.				
10	Always shares personal experience with me.				
11	Encourages me to talk openly about distractions.				
12	Often conveys for feelings discussed with him.				
13	Keeps burdens shared with him strictly confidential.				
14	Conveys feelings of respect for me as a person.				
15	Helps me to meet deadlines in assignments.				
16	Demonstrates good interaction and conversation skills.				
17	Enhances my written and oral languages via tasks.				
18	Gives me tasks that prepare me for future career.				
19	Gives me assignments that present new opportunities.				
20	Assigns responsibilities to me that increase my contact with likeminded students.				

**APPENDIX V**  
**GROUP MENTORSHIP (GM) SCALE**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Father's highest academic degree-----

Mother's highest academic degree -----

Occupation of parents (Father and Mother)-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above  
#50,000 (iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B: GM SCALE**

**Directions: This Section B deals with group SM programme for high ability students.**

Please respond by considering how well each statement applies to you.

In the context of this study, group mentoring offers benefits including inclusion, support, and teamwork, which can be especially helpful during inductions. On occasion, a single mentor will be matched with several mentees.



Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3) Strongly agree (4)**

S/N	ITEMS	SD	D	A	SA
1	Meeting schedule and regularity should be divulged to mentees.				
2	My group activities help me in setting appropriate goals.				
3	My group activities enhance my academic achievement.				
4	GM programme in school help HASSS to build peer relationships.				
5	GM programme in school help HAS to build family relationships.				
6	GM programme in school help HASSS to resolve conflicts.				
7	GM programme in school help HAS learn problem-solving skills.				
8	GM help HASSS to discuss personal challenges together				
9	GM encourage HASSS use role plays to practice new skills.				
10	Mentees and mentors should split their roles to the tune of 50/50.				
11	In a group activity, mentees should always decide.				
12	In a group activity, mentors should always decide.				
13	Having structured activities enhances cohesion in a GM.				
14	Having unstructured activities (such as games, sports) enhances cohesion in a GM.				
15	In GM, safe, supportive space for students to talk enhances cohesion.				
16	Incentives such as food, school supplies should be given in GM				
17	Mentors should invite guest speakers to present talk in GM.				
18	Personal conflicts between mentees can arise in GM.				
19	One of two mentee(s) might not actively participate in group tasks.				
20	One of two mentee(s) could dominate discussion (drowning out other mentees)				

**APPENDIX VI**  
**BIBLIOTHERAPY MENTORSHIP (BM) SCALE**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Father's highest academic degree-----

Mother's highest academic degree -----

Occupation of parents (Father and Mother)-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000 (iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B: BM (BM) SCALE**

**Directions: This Section B deals with the use of bibliotherapy in SM programme for high ability students.** Please respond by considering how well each statement applies to you. The use of books to promote mental healing and equip people to handle personal issues is referred to in this study as bibliotherapy. It entails the practise of assisting people with their personal development and growth through the use of literature.

Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3) Strongly agree (4)**

S/N	ITEMS	SD	D	A	SA
1	Books help to promote social values and attitude.				
2	Discussing of the therapeutic stages of BM with HASSS is vital.				
3	Mentors should find titles of books for students with specific problems.				
4	Mentors spend time to encourage us to use books to solve our problems.				
5	Motivating students to read is difficult because of technology.				
6	BM makes me familiar with sources to use to find the right book.				
7	I use library books (e.g. fiction, picture books, informational).				
8	Our mentors read aloud books to HASSS in my school.				
9	Our mentors recommend book(s) to be read by HAS.				
10	Giving HASs the right book can be a complete form of treatment.				
11	Mentors establish a reading level before suggesting a book to HASs				
12	Books related to behavioural problems help heal such problems.				
13	Putting HASSS on the right track through BM is helpful.				
14	BM ensures that HASSS gain the most from the learning process.				
15	Familiarity with HAS's concern before suggesting a book is useful.				
16	Books help to promote social values and attitude.				
17	Discussion should occur after a book has been read by HASSS.				
18	BM destroys the pleasures normally derived from reading literature.				
19	Mentors of HASSS should suggest books at HASSS of interest to them.				
20	Mentors should determine if a book is suitable to facilitate development of high ability students.				

**APPENDIX VII**  
**ACADEMIC ADJUSTMENT SCALE (AAD)**

**Section A**

Name of School: \_\_\_\_\_

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Class: \_\_\_\_\_

Father's highest academic degree-----

Mother's highest academic degree -----

Occupation of parents (Father and Mother)-----

Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000 (iv) above #100000

Type of Family (i) Monogamy----- (ii) Polygamy-----

Birth Position (i) First born-----Last born----- Others-----

**SECTION B: ACADEMIC ADJUSTMENT SCALE (AAD)**

Directions: The statements in this section demonstrate how you have adapted academically to the learning environment. Please examine how much each statement pertains to you before responding.

Use the following scale for your responses: **Strongly disagree (1) Disagree (2) Agree (3) Strongly agree (4)**

S/N	ITEMS	SD	D	A	SA
1	My most recent exam scores have satisfied me.				
2	I am really confident that I can accomplish my goals.				
3	My school's academic curriculum is proving to be difficult for me.				
4	Being a part of a productive study group is advantageous to me.				
5	I talk about my academic achievement on a frequent basis with my teachers.				
6	I am aware that I am not giving my coursework the effort it deserves.				
7	My goals and aspirations in academics are well-defined. I devote enough time to my academic goals.				
8	For me, getting my secondary school diploma is really important.				
9	I've been making good use of my study time lately. I enjoy reading about things that are relevant to education.				
10	I have a strong desire to pursue serious academic study.				
11	I occasionally question whether a secondary education is worthwhile.				
12	The variety and breadth of disciplines offered at school satisfy me.				
13	Recently, it has been hard for me to stay focused when studying.				
14	The amount of work I put in does not correspond to my academic results.				
15	My interests are mostly unconnected to my academic career.				
16	I am happy with the calibre of the subjects taught at school.				
17	My academic assignments provide me pleasure. For me, homework tasks occasionally present difficulties.				
18	I am happy with the course offerings for this term at school.				
19	I regularly show up to class. I am incredibly happy with the instructors who teach my topics.				
20	I'm happy with the specialisation I've picked.				
21	I sometimes worry that I'll get bad grades on tests.				
22	My most recent exam scores have satisfied me.				
23	I am really confident that I can accomplish my goals.				
24	My school's academic curriculum is proving to be difficult for me.				
25	Being a part of a productive study group is advantageous to me.				

**APPENDIX VIII**  
**ENGLISH LANGUAGE AND MATHEMATICS ACHIEVEMENT TEST**  
**(ELMA)**

**Section A**

Name of School: \_\_\_\_\_  
Gender: \_\_\_\_\_  
Age: \_\_\_\_\_  
Class: \_\_\_\_\_  
Level of education (Father)-----  
Level of education (Mother)-----  
Occupation of father-----  
Occupation of mother-----  
Estimated Parents' Monthly income (i) below #30,000 (ii) above #30, 000 (iii) above #50,000 (iv) above #100000  
Type of Family (i) Monogamy----- (ii) Polygamy-----  
Birth Position (i) First born-----Last born----- Others-----

**SECTION B**

This test is designed to measure success in English language and Mathematics. Kindly answer the question to the best of your knowledge.

**ENGLISH LANGUAGE**

There are four sections in this subject.

**Section B1**

Pick the word that is opposite in meaning

1. No one anticipates that he will appear for his children, but he undeniably showers them with excessive affection. (a) love (b) worry (c) familiarity (d) dedication (e) detestation.
2. What should have been a source of motivation for him turned out to be a terrible source of... (a) failure (b) harm (c) dissuasion (d) doubt (e) delivery.
3. Too many theories will not help us; we need to be... (a) studious (b) theoretical (c) adversative (d) shred (e) practical.
4. The young engineer has experience terminating other people's projects, but he hasn't been able to start any of his own. (a) mixing (b) finishing (c) completing (d) starting (e) organizing.

5. The manager received contempt when expecting to be handled with deference. (a) self-respect (b) contempt (c) unkindness (d) unfaithfulness.

### Section B2

The alternatives listed beneath each of the subsequent sentences range from A to E. The word or collection of words that most closely reflects the word that is underlined or expression utilised in the sentence is what you should choose.

6. If not for the presence of the principal actor, the play would be gloomy (a) significant (b) head (c) main (d) leading (e) well-known.
7. One renowned novelist is Chinua Achebe (a) delightful (b) famous (c) dependable (d) captivating (e) witty.
8. before us, is an enormous task (a) great (b) difficult (c) weighty (d) worrying (e) solemn.
9. The talk given by the professor was quite erudite. (a) ostentation (b) quotation (c) acclamation (d) learning (e) tautology.
10. Nelson Mandela surmounted all the coercive means used to subdue him. (a)overcame (b) brawled (c) rejected (d) articulate (e) embraced.

### Section B3

Select the word or collection of phrases which most effectively completes each of the subsequent statements from the words marked A to D.

11. Joy stands out as ..... among the girls. (a) most brilliant (b) the most brilliant (c) the more brilliant (e) more brilliant.
12. We have commenced the operation of the... (a) national new education policy (b) new education policy (c) new national education policy (d) new national policy education.
13. The lady.....here tomorrow (a) arrive (b) arriving (c) arrives (d) arrived.
14. There is a significant conflict ..... the two of them. (a) between (b) amidst (c) across (d)among.
15. The old woman has been unwell..... (a) before (b) for (c) since (d) through.

### Section B4

Pick the word with the identical vowels sound as the letter(s) represented by the underlined one(s) from the words A to D.

16. Coin (a) lawn (b) coy (c) alone (d) com.
17. People (a) meat (b) leopard (c) shone (d) pip
18. Pool (a) book (b) suit (c) pole (d) shock
19. Leagues (a) lick (b) pleasure (c) people (d) learn
20. Teak (a) tick (b) take (c) tide (d) heeds

## APPENDIX IX

### In-depth Interview Guide for Teachers (IIGT)

Dear Respondents,

This research interview guide is to elicit oral responses from experienced teachers of HASSS on their experiences with adopting ET and SM programmes for HASSS in their schools.

#### Interview Questions

Can you briefly introduce yourself Sir/Ma -----?

1. Share your **experience** with me on the following: ET (TI, IS), SM (OM, GM and BM) programmes for HASSS.
2. How does each of the following: ET (TI, IS), SM (OM, GM and BM) programmes **help** you enhance learning outcomes for HASSS in your classroom?
3. Identify those things you **dislike** about the following ET (TI, IS), SM (OM, GM and BM) programmes with reference to HASSS in your classroom.
4. What are the **barriers** you have encountered in using ET (TI, IS), SM (OM, GM and BM) programmes for improving academic achievement among HASSS in your classroom?
5. Suggest **advice** for a teacher who is struggling to provide supports: ET (TI, IS), SM (OM, GM and BM) programmes to HASSS in his or her regular education classroom.





**UNIVERSITY OF IBADAN**  
**IBADAN, NIGERIA**

**DEPARTMENT OF SPECIAL EDUCATION**

Acting Head

Ayodele Osisanya, B.Ed, M.Ed, Ph.D (Ibadan)

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Date: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Sir/ Madam

**LETTER OF INTRODUCTION**

IBEABUCHI Glory Ifeyinwa  
Matriculation No. 182270

We are pleased to introduce to you the above-named Postgraduate student who is currently running a Ph.D degree programme in the Department of Special Education, University of Ibadan. She is working on her project titled:

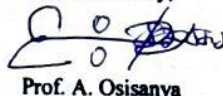
*Enrichment Triad and School Mentorship as Determinants of Academic Achievement and Adjustment among High Ability Secondary School Students in Imo State, Nigeria*

As part of her data collection for the study, the student would need to visit some School/Special Schools/Institutions/Ministries and other relevant places. She is also expected to conduct experiments (if necessary) on pupils/students concerned and /or administer questionnaire where necessary.

The exercise is strictly for academic purpose and the response would be treated with utmost confidentiality. Please, assist the student accordingly.

Thank you for your anticipated cooperation.

Yours sincerely,

 17/3/2023

Prof. A. Osisanya  
Head of Department

VISION: To make the Department a beacon in African and beyond in the field of Special Needs Education  
PROFESSORS IN THE DEPARTMENT  
I. A. Nwazuoke, J. A. Ademokoya, M. S. Eniola, Adebomi M. Oyewumi, J. O. Oyundoyin, O. A. Fakolade

## PHOTO GALLERY



**Development Secondary School, Owerri North LGA**



**Development Secondary School, Owerri North LGA**





**Mbaise Secondary School, Aboh Mbaise LGA**



**Mbaise Secondary School, Aboh Mbaise LGA**



**Senior Secondary School, Dikenafai, Ideato North LGA**