CONSTRUCTIVIST, BEHAVIOURIST TEACHING APPROACHES AND STUDENT ENGAGEMENT IN SECONDARY SCHOOLS IN ARUA CITY, UGANDA

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A RESEARCH DISSERTATION SUBMITTED TO DIRECTORATE OF RESEARCH AND GRADUATE TRAINING IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF EDUCATION IN EDUCATIONAL FOUNDATIONS OF KYAMBOGO UNIVERSITY

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Declaration

I Siraji Hamimu Onzi declare that this research dissertation "Constructivist, behaviourist teaching approaches and student engagement in secondary schools in Arua City, Uganda" is my personal effort and has never been submitted to any other institution.

Signature..... Date: .....

Siraji Hamimu Onzi.

Approval

This research dissertation on "Constructivist, behaviourist teaching approaches and student engagement in secondary schools in Arua City, Uganda" was done under our supervision. We confirm that it is now ready for submission for examination.

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Dedication

I dedicate this study to my wife Faima Draleru who supported me throughout my education and our children Faraha, Hannan, Halil and Rihab. I pray that this study becomes an inspiration to them to strive for higher qualification than this achievement.

Acknowledgement

I would like to thank almighty Allah the provider of sustenance and knowledge for helping me to reach this far with my academics. I also acknowledge my lead supervisor Dr Wilson Mugizi for tirelessly working overboard with prompt and timely feedback with immediate follow up that helped me a lot to work within timelines and enabled me to complete this study. Thank you very much Dr Wilson. I also extend my appreciation to my supervisor Dr Joseph Rwothumio for willingly accepting to take me up and doing everything he could to help me complete this work whenever I needed guidance from him. My sincere appreciation to the head of department Dr Disan Kutesa who did everything at the department to make sure our programmes move on well. I also extend my appreciation to my colleagues on the Master of Education in Educational Foundation who were a source of fun and encouragement in difficult times during the course. Finally, my special appreciation goes to teachers and students of secondary schools in Arua City who provided the responses that led to the success of this study.

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Abstract

This study examined the relationship between constructivist, behaviourist teaching and student engagement in secondary schools in Arua City, Uganda. The objectives of the study were to; find out the relationship between constructivist teaching approaches and student engagement, establish the relationship between behaviourist teaching approaches and student engagement, and determine moderating influence of behaviourist teaching approaches on the relationship between constructivist teaching approaches and student engagement in secondary schools in Arua City. The study adopted correlation and cross-sectional research design on a sample of 341 students and 15 teachers. Data were collected using a self-administered questionnaire for students and interview guide for teachers. Data were analysed using quantitative and qualitative methods. Quantitative data were analysed using descriptive statistics specifically frequencies, percentages, means, and inferential analysis by means of Structural equation modelling using Smart PLS. The findings revealed that constructivist teaching approaches positively and significantly predicted student engagement while behaviourist teaching approaches negatively and significantly predicted student engagement. The findings further revealed that behaviourist teaching approaches had a positive insignificant moderating effect on the relationship between constructivist teaching approaches and student engagement. Therefore, it was concluded that constructivist teaching approaches are imperative for student engagement, behaviourist teaching approaches are not essential for student engagement and combining behaviourist teaching approaches and constructivist teaching approaches is not a probable requirement for promoting student engagement. Therefore, it is recommended that teachers should adopt the constructivist teaching approaches to enhance student engagement, teachers should make effort to limit the use of behaviourist teaching approaches in teaching learning process and teachers should make effort to minimize combining constructivist and behaviourist teaching approaches in an effort to promote student engagement.

Chapter One

Introduction

1.0 Introduction

Engagement of students is crucial for their learning and success. The factor of student engagement is essential for addressing difficulties with low performance, high student boredom, isolation, and large number of students dropping out of school (Boateng & Sekyere, 2018). In light of constructivist teaching strategies, this study set out to examine variables that are related to student engagement.

1.1 Background of the Problem

1.1.1 Historical Background. The word "engagement" has been used in social discourse or everyday speech throughout the history of mankind, and it is from it that the concept of "student engagement" was derived. Philosophical ideas on engagement began to emerge around the 19th century but reached their peak in the 20th century as a new paradigm of existence when man was challenged with the task of rearranging social reality independently and solely relying upon self. Life had not initially been all that complicated, requiring complete involvement in personal pursuits because one could rely on individuals in his social circles (Koprivitsa, 2020). Alexander Astin's (1984) ground-breaking article on student engagement was the first to make reference to the idea in the context of education in the 20th century. Astin made the case in his paper that engagement meant "engaged in." Astin claimed that the greater the level of student engagement, the more knowledge and advancement will be attained (Lester, 2013). Students' active involvement in tasks and activities linked to their learning was described by the concept of student engagement (Lei et al., 2018).

After research such as Newman's (1992) study on student involvement and achievement in American secondary schools, the idea garnered considerable attention from academics in the 1990s. To get pupils interested in their work, teachers began experimenting with new techniques in the 1990s, such as lesson plans that incorporate entertaining and engaging activities (Goodman, 2016). Particularly in Australasia Countries (New Zealand, Fiji, Guam, Papua New Guinea, Samoa, Australia, Solomon Islands, and Tonga) and North America, where national surveys have been done annually to mandate its usage, student engagement has garnered increasing attention. Higher academic achievement has been linked to student engagement, which has also repeatedly demonstrated its accuracy in predicting student progress and positive behaviour in classrooms (Delfino, 2019).

According to Bond et al. (2020), research conducted in China, Taiwan, Australia, the United States of America, and the United Kingdom found that there was a problem with low learning results due to low student engagement. Since student engagement is associated with increased persistence, retention, and participation in school, it has been adopted as a strategy to deal with the issue of low learning outcomes. Student learning outcomes improved as a result of student engagement. Engagement among students is highly valued in the Australasia Countries. It was being promoted across the school system with every possible effort. The Australasia Countries have put in place laws that make it mandatory for schools to implement student engagement programmes. Annual national surveys were even carried out in these Australasia Countries to ascertain the degree of institutional compliance (Lester, 2013).

In Africa, some investigation on student engagement has been done. For instance, a South African study was undertaken by Schreiber and Yu (2016) exploring student engagement at university in South Africa. The finding revealed that performance was reliably predicted by

student engagement. In Nigeria, study conducted by Philomena and Onwioduokit (2012) in River State on efficiency of classroom interaction strategies on students' participation, revealed poor performance by students due to low engagement. In Kenya, study by Wara et al. (2018) among Kenyan secondary school students on relationship between student engagement and performance showed that pupils were performing poorly because they were not engaged. They emphasised that if teachers were not there, students could perform poorly on tasks. Some students, they said, were not serious about their studies, while others failed to pay attention to the assignments that were provided to them by teachers.

In Uganda, there are limited studies on student engagement dating less than five years ago. In a study at a private institution in south western Uganda, Mugizi et al. (2020) explored the relationship between teacher-centred methods and student engagement. Immediate feedback, continuous practice and reinforcement were the dimensions studied. In another study at a private University in Bushenyi District, Mugizi (2021) investigated the quality of university infrastructure on student engagement. Lecture room infrastructure and university utilities were assessed. In another study based on cognitive constructivist theory, Mugizi et al. (2021) studied the relationship between student-centred methods and student engagement at a university in Uganda. Collaborative learning, learner motivation, contextual learning, and active learning were all investigated as part of student-centred approaches. However, studies were in the context of universities leaving gap in the context of secondary schools which was what this study sought to study.

While some studies were anchored on the Constructivist Theory, some elements of the theory such as teacher support were not studied attracting the need for this study to examine the element in relation to student engagement. According to studies by (Jamaludin et al., 2014; Khan

et al., 2017; Holec & Marynowski, 2020), active learning was reliable indicator of student engagement. Mugizi et al. (2021) found weak link which creates an empirical gap because of lack of harmonised relationship on the same calling for further investigations on the importance of active learning in relation to student engagement. The gaps called for further study to examine student engagement and constructivist teaching in secondary school settings.

The Socratic constructivist ideology, which encouraged conversation between the teacher and students, was a foundation for constructivist teaching methods (Vagele-Kricina, 2021). John Dewey and Jean Piaget both supported construct teaching strategies in their progressive educational philosophies. Piaget contended that constructing logical structure after the other enables learning by humans (Waite-Stupiansky, 2017). However, Dewey advocated for education to be based on open, sincere dialogue and practical experience (Pérez-Ibáez, 2018). Constructivism was the philosophical assertion that knowledge emerged through an active production process (Mascolo & Fischer, 2005). The core of the constructivist teaching philosophy is student autonomy, wherein student thinking directs the lessons, dialogue, inquiry, and puzzlement are encouraged, and student learning is evaluated within the framework of instruction (Akpan & Beard, 2016). However, evidence in schools in Uganda suggested that teachers largely used the behavioural teaching approach (Muganga & Ssenkusu, 2019). Therefore, in studying the relationship between constructivist teaching and student engagement, this study examined whether behaviourist teaching approaches moderated the relationship.

1.1.2 Theoretical Background. This study was inspired by Watson's (1913) and Skinner's (1953) Behaviourist Theory and Cognitive Constructivist Theory introduced by Piaget (1936). According to Cognitive Constructivist Theory (CCT), learning occurs when students actively

connect new ideas to prior knowledge (Dagar & Yadav, 2016). Active learning, conflict in learning, collaborative learning, teacher support, metacognitive learning, reflective thinking, and contextual learning were the seven fundamental components of constructivist learning (Alt, 2015). The Cognitive Constructivist Theory recommended seven different teaching strategies, some of which were related to this study's focus on student participation, such as active learning, teacher support, and collaborative learning. However, the behaviourist teaching approaches that were investigated as the moderator variable in this study are not explained by Constructivist Theory.

The Behaviourist Theory thus provided an explanation for behaviourist teaching methods. The Behaviourist Theory posited that the act of behaving was an acquired habit. All behaviours, according to behaviourists, could be unlearned and replaced by new ones. When an unpleasant behaviour arises, it might be replaced with a more acceptable one (Zhou & Brown, 2017). The observable and measurable characteristics of human behaviour were the focus of Behaviourist Theory. Changes in behaviour as a result of stimulus-response linkages were the focus of Behaviourist Theory (Mugizi et al., 2020). Behaviourist teaching techniques include immediate feedback, continuous practise, reinforcement, contracts, consequences, extinction, and behaviour modification (Zhou & Brown, 2017; Mugizi et al., 2020). The behaviourist teaching approaches that were taken into consideration in this study were immediate feedback, continuous practice, and reinforcement based on the sameualization by Mugizi et al. (2020).

1.1.3 Conceptual Background. In this study, dependent variable was student engagement, independent variable was constructivist teaching approaches, and moderating factor was behaviourist teaching approaches. Student engagement is the zeal and commitment that students

have for education (Bond & Bedenlier, 2019). Behavioural, affective, cognitive, and agentic engagements were considered to be components of the construct of student engagement (Montenegro, 2017). Engagement in behaviour includes a variety of student actions like participation, compliance, task completion, effort, and attendance (Mugizi et al., 2021). Affective engagement refers to student attitude toward education and institution they attend (Lam et al., 2014). According to Lee et al. (2019), cognitive engagement is learners' commitment to learning in terms of thought, mental effort, or learning methodologies. Agentic engagement refers to positive contribution of students to their own learning and mutual interaction with teachers and classmates (Montenegro, 2017).

Constructivist teaching approaches refer to methods that let students actively create their own knowledge by fusing new ideas with what they already know (Dagar & Yadav, 2016). Constructivist teaching in this study referred to active learning, collaborative teaching, teacher support and contextual teaching (Metheny et al., 2008; Mugizi et al., 2021). Active learning, teacher support, and collaborative learning were all methods of instruction used in constructivist classrooms (Mugizi et al., 2020; Le et al., 2018). Active learning is a method of instruction that involves students actively in the learning process, allowing them to focus on the production of knowledge while also honing skills like critical thinking, problem-solving, and metacognitive tasks (Demirci, 2017). Teacher support concerns offering care, respect, understanding, and help by teachers to students (Yu & Singh, 2018). Contextual learning is concerned with teachers relating knowledge taught to real world situations (Lotulung et al., 2018). For contextual learning, it involves inquiry, questioning, reflection or thinking back and authentic assessment (Roza et al., 2019). This makes learning an enjoyable activity most likely promoting learners' engagement (Mugizi et al., 2021).

Approaches to teaching that place emphasis on behavioural modifications brought on by stimulus-response relationships are known as behaviourist approaches (Mugizi et al., 2020). Immediate feedback, continuous practice, and reinforcement were all utilised in behaviourist teaching approaches (Ertmer & Newby, 2013; Omomia & Omomia, 2014; Rao, 2018;). Feedback is the dissemination of knowledge regarding one's performance from an agent, such as a teacher, peer, or any other individual (Leibold & Schwarz, 2015). Continuous practice, often known as repetition, is the process of continuously studying new material and taking tests on it (Ludigo et al., 2019). Reinforcement, according to Zhou and Brown (2017), is escalation or decrease of an activity or something to influence an organism's behaviour.

1.1.4 Contextual Background. The study was carried out in Arua City, Uganda. Nine government-sponsored secondary schools exist in Arua City (Kawa, 2020). Like other schools in Uganda, the government equipped certain schools with contemporary facilities, added more teachers, and provided educational resources in an effort to increase student involvement. Through initiatives like Secondary Science and Mathematics Teachers (SESEMAT), science teachers have also received training in use of constructivist teaching approaches (Manyiraho et al., 2020). The level of student participation has nevertheless remained low despite efforts to raise it. High absenteeism, conflicts in schools, high dropout rates, low morale, and dissatisfaction among secondary school students were indicators of low engagement (Alero, 2016). Students persisted in participating in strikes, skipping lessons, being absent, and dropping out of school (Odama & Ezati, 2017). Additionally, students used drugs, such as alcohol, tobacco, and marijuana, instead of focusing on their academic work (Okaka, 2021). Contextual data revealed that student engagement remained low despite efforts made by schools to employ

effective teaching techniques. This contextual discrepancy made it unclear whether secondary school teachers were actually using constructivist teaching strategies.

1.2 Statement of the Problem

Educators and researchers acknowledge that student learning outcomes were greatly influenced by student engagement (Lester, 2013). Increased student engagement improves the quantity and quality of interactions among students and lowers school dropout rates (Lee, 2012). In addition to improving student capacity to learn in knowledge-based society, student engagement aids in controlling classroom behaviour (Lee, 2012). Due to importance of student engagement, players in education system have worked to encourage it. For instance, government has built multi-story buildings in some secondary schools, hired additional teachers, provided teaching materials, and subsidies for universal secondary education (Polycarp, 2021). Through SESEMAT, educators received training in use of constructivist teaching approaches (Manyiraho et al., 2020). Despite efforts to increase student engagement, students continued to participate in strikes, dodge classes, skip school, drop out of school, have conflicts in schools, have low morale (Alero, 2016; Stephen & Ezati, 2017;). Additionally, students used drugs, such as alcohol, cigarettes, and marijuana (Okaka, 2021). If the issue of low engagement is not resolved, both student success and school growth will remain stagnant. This study examined relationship between constructivist teaching approaches and student engagement in secondary schools.

1.3 Purpose of the Study

The purpose of this study was to examine relationship between constructivist teaching approaches and student engagement in secondary schools in Arua City, Uganda, moderated by behaviourist teaching approaches.

1.4 Objectives of the Study

The study sought to;

i. Find out the relationship between constructivist teaching approaches and student engagement in secondary schools in Arua city.
ii. Establish relationship between behaviourist teaching approaches and Student engagement in secondary schools in Arua city.
iii. Determine moderating influence of behaviourist teaching approaches on relationship between constructivist teaching approaches and student engagement in secondary schools in Arua city.

1.5 Research Questions

This study was guided by the following research questions;

i. What is the level of student engagement in Arua City secondary schools?
ii. How are constructivist teaching approaches used in Arua City secondary schools?
iii. How are behaviourist teaching approaches used in Arua city secondary schools?

1.6 Research Hypotheses

The following were the research hypotheses tested.

H1 There is significant relationship between constructivist teaching approaches and student engagement in secondary schools.

H2 There is significant relationship between behaviourist teaching approaches and student engagement in secondary schools.

H3 Behaviourist teaching approaches have moderating influence on relationship between constructivist teaching approaches and student engagement in secondary schools.

1.7 Scope of the Study

1.7.1 Geographical scope. The inquiry was carried out in Arua City, the regional hub of West Nile sub-region. The former Arua Municipality and Ayivu County combined to become Arua City. It is located in West Nile, 510 kilometres from Kampala, the capital city of Uganda, and 260 kilometres from Karuma Bridge, off Kampala-Gulu route. The study was carried out in government-aided secondary schools in Ayivu and Arua central divisions of Arua city.

1.7.2 Content scope. Student engagement was the dependent variable, and constructivist teaching approaches was the independent variable, regulated by behaviourist teaching approaches. The behavioural, affective, cognitive, and agentic facets of student engagement were examined. Active learning, invested effort, positive regard, teacher expectation, teacher accessibility and collaborative learning were aspects of constructivist teaching approaches, whereas immediate feedback, continuous practise, and reinforcement were investigated as behaviourist teaching approaches.

1.7.3 ***Time scope***. The investigation was done from June 2021 to September 2022. Field entry, data collection, analysis and reporting were conclusively done within this period. This was because this was the period the researcher found to be convenient for the study.

1.8 Significance of the Study

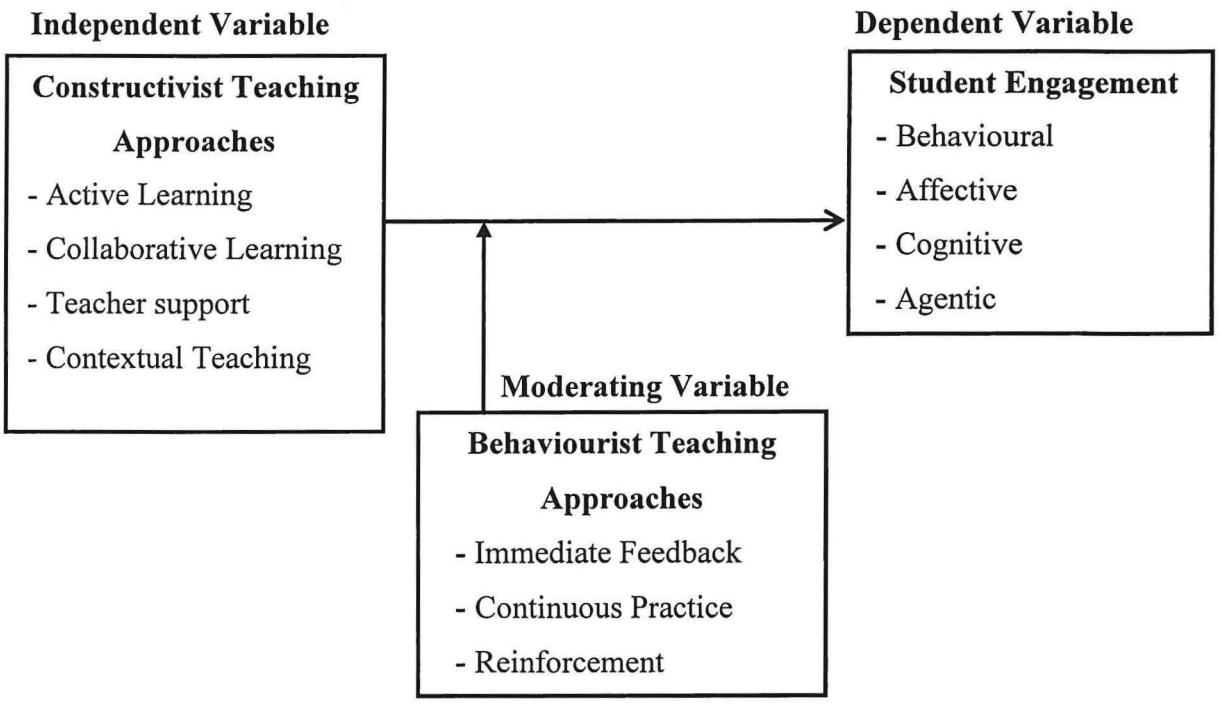
This investigation might help policy makers, educational institutions and body of knowledge. To the policy makers in the Ministry of Education and Sports, this study may serve as foundation for creating constructivist teaching policies that will be used in educational institutions to enhance teaching and learning. This is due to the study's findings, which highlight the value of constructivist teaching approaches in raising student engagement. To educational institutions, the findings may aid education institutions like schools on constructivist teaching strategies that boost student engagement and guarantee school achievement. Behaviourist teaching approaches also provide valuable support to constructivist teaching approaches in areas which need teacher's intervention to clarify misunderstanding of concepts by students. Further, the study offers fresh knowledge on constructivist teaching approaches and student participation to the body of knowledge. This will allow researchers and scholars to expand on their expertise on constructivist teaching practices and student participation.

1.9 Conceptual Framework

The conceptual framework (1.1) Figure outlines the relationship between constructivist teaching approaches and student engagement, which is tempered by behaviourist strategies.

Figure 1.1

Conceptual Framework



Source: Developed on ideas adapted from Fairchild and MacKinnon (2009) and Wilson (2019).

The conceptual model (Figure 1.1) shows that constructivist teaching approaches moderated by behaviourist teaching approaches relate to students' engagement. The framework demonstrates constructivist teaching approaches include active learning, collaborative learning, teacher support and contextual teaching. The framework indicates that behaviourist teaching approaches include continuous practice, immediate feedback and reinforcement. With respect to student engagement, the framework shows it in terms of behavioural, affective, cognitive and agentic engagements.

Chapter Two

Literature Review

2.0 Introduction

This chapter covers theoretical review and review of literature. Theoretical review was in relation to study objectives. Review of related literature was on constructivist, behaviourist teaching approaches and student engagement.

2.1 Theoretical Review

The Cognitive Constructivist Theory (CCT) was put forth by Piaget in 1936. The CCT claims that knowledge is the result of a self-construction technique that entails analysing current mental representations in order to strike a balance between them and the new environment (Macleod, 2018). The notion contends that students produce their own knowledge by purposefully making connections between new ideas and prior knowledge to produce meaningful understanding (Dagar & Yadav, 2016). There are seven essential components of constructivist learning namely; active learning, conflict in learning, collaborative learning, teacher support (invested effort, positive regard, teacher expectation, and teacher accessibility), meta-cognitive learning, reflective thinking, and contextual learning (Alt, 2015). Dagar and Yadav (2016), explain that learning necessitates letting go of one's present knowledge of an idea in order to get a new viewpoint, and this can be achieved through peer interaction. In addition, working with knowledgeable partners, such as adults, may be the most effective way to attain learning that is characterised by acquiring a new skill.

The teacher's supervision is known as scaffolding, and it is necessary for learner to advance beyond zone of proximal development. Dagar and Yadav (2016,) indicate that zone of

proximal development occurs when more competent individual interacts with less competent person on task, resulting in the less competent person becoming proficient at the skill without help. Constructivism is significant because it emphasises that knowledge is not simply passive transfer of information from one person to another, but instead constructed via critical analysis of what is learned and the unlearning of notions. However, there are a few drawbacks to the constructivist approach. Kara (2019) identified some as constructivist intricacies which make it difficult to be applied regularly as the challenge of simplifying without a well-designed lesson, taking long time for students to complete their assignments completely, the need for expert teachers in terms of pedagogy yet many teachers are ill equipped to employ constructivist teaching strategies, in ability to see what pupils demand and make necessary changes and in ability of some institutions and teachers to afford essential materials for constructivist instruction.

However, Kara (2019) indicates that constructivist approaches help learners to develop higher cognitive levels to build on the knowledge they already know, teachers become facilitators supporting learning, learners are involved in their own learning by acquiring knowledge through real-life experience which promotes active learning, encourages group work which promotes team spirit, cooperation and collaboration among learners and ability to create new information helps learners feel as part of the world (Jaleel & Verghis, 2015). Therefore, basically, constructivist approaches emphasise among others collaborative learning, active learning, and teacher assistance. Because of this, the study related collaborative learning, active learning, and teacher assistance to student involvement.

The study was based on the Behaviourist Theory, which was first proposed by Watson in 1913 and then expanded upon by Skinner in 1953. According to Watson, certain stimuli have an

impact on how people behave (Overskeid, 2018). According to Skinner, every action has reaction, and nature of reaction affects an organism's propensity to repeat the action in future (Jones-Smith, 2014). Behaviourist Theory states that learning occurs when stimulus conditions reproduce responses to stimuli (Uribe et al., 2019). Thus, stimulus conditions in environment must be changed if people's responses are to be changed (Bastable et al., 2010). Strengths of behaviourist approach according to Lockey et al. (2020) include emphasis on mastery of prerequisite steps before progressing to more complex topics as described by Bloom (1976), teacher is in total control of the educational experience, it's appropriate for establishing ground rules and learning contracts, learners regarded as 'blank slates' makes them receive considerable learning from experts, enables lecture to mass audiences and tutor-led tutorials, provides feedback structure centred on what went well followed by what could be improved, positive and negative reinforcement produce required behaviour in students. However, Lockey et al. (2020) identified weaknesses of behaviourist approach as high risk of cognitive overload, lower learner engagement and reduced motivational impact, learners are regarded as 'blank slates' with no recognition of any prior experience or learning. Stimulus conditions and reactions are the underpinning of behaviourist teaching (Uribe et al., 2019). Therefore, learning can be efficiently accomplished through behavioural teaching methods such as feedback (Omomia & Omomia, 2014), continuous practice (Rao, 2018), and reinforcement of stimulus-response correlations (Ertmer & Newby, 2013). Using behaviourist theory as foundation, the study examined relationship between student engagement and behaviourist teaching approaches such as continuous practice, immediate feedback, and reinforcement.

2.2 Concept of Student Engagement

Student engagement denotes the effort put forth by institutions to implement good educational practises as well as the time and effort students put into activities with a learning focus (Zepke, 2015). According to Bond and Bedenlier (2019), student engagement is the zeal and commitment that students have for their own education. In this study, student engagement is the time and effort students devote to their own learning. Behavioural, affective, cognitive, and agentic engagements were the components of student engagement (Montenegro, 2017). There are scholars who have conducted studies on the construct of student engagement. For instance, Zepke (2015) investigated student engagement at Institute of Education, Massey University, New Zealand. The results revealed that student engagement was a generic indicator of quality learning, teaching and successful student outcomes. DeVito (2016) studied factors influencing student engagement at Sacred Heart University. The findings revealed that collaboration, active participation in learning activities and supporting learning environment influenced student engagement. Thomas (2019) investigated managing behaviour or promoting student engagement at University Of Tasmania. The findings revealed that student behaviours that most affect teaching and learning are low level disruptive or disengaged behaviours. These disengaged behaviours are indications of student's weakened affective or cognitive engagement.

2.3 Review of Related Literature

2.3.1 Constructivist Teaching Approaches and Student Engagement. Constructivist teaching approaches refer to strategies that allow students to actively create their own knowledge by connecting new concepts with what they already know (Dagar & Yadav, 2016). Active learning, invested effort, positive regard, teacher expectation, teacher accessibility, and collaborative

learning are all examples of constructivist teaching approaches (Le et al., 2018; Kumar & Kumar, 2019; Mugizi et al., 2020). There are scholars that have related constructivist teaching approaches to student engagement. For instance, Arjomandi et al. (2018) investigated the relationship between active teaching methods and student involvement. The study discovered a strong correlation between student involvement and active teaching methods. De Vito (2016) studied elements affecting Sacred Heart University students' engagement. According to the survey, pupils felt more at ease and involved in class when they were treated with respect and guidance and were given opportunities to work together. Hernandez (2012) at University College Dublin in Ireland investigated the association connecting collaborative learning to engagement of students. The result showed that collaborative learning promoted student engagement. The literature showed that constructivist teaching approaches relate to student engagement.

2.3.1.1 Active Learning and Student Engagement

By emphasising creation of knowledge through critical thinking, problem-solving, and meta-cognitive activities, active teaching actively engages students in learning process (Demirci, 2017). Active learning includes interaction, exploration of material, social collaboration, elaboration and physical activity (Hartikainen et al., 2019). In this study, active Learning referred to students actively participating in learning activities. Some academics found correlation between engaging students and active Learning. Arjomandi et al. (2018), for instance, investigated active teaching techniques and student engagement. The study discovered an association between engaging teaching methods and long-standing student engagement. Fitzsimons (2014) examined how active learning could involve students in their learning. The

statistics show that when active learning techniques were applied, students participated more fully in the learning process.

Khan et al. (2017) studied several pedagogies implemented into an online learning courses design to enhance student engagement. Discussions, debates, and multidisciplinary partnerships were shown to actively engage students in the courses, improving learning. At UniversitiSains Malaysia in Penang; Malaysia, Jamaludin and Osman (2014) did study on the use of flipped classroom to enhance active teaching. According to Osman's descriptive analysis, student participation encouraged active learning. Abdullah and Yang (2019) investigated use of active learning in classroom setting in a different study. The outcomes demonstrated that the success and achievement of students were directly impacted by active learning. Nguyen et al. (2016) examined student reaction to instructional strategies in both traditional and dynamic classrooms for their study. The result showed that in classes with active learning, children did not show any resistance and responded favourably to in-class activities. The literature suggests significant effort made by scholars to link active learning and student engagement. However, the studies were done in western world leaving contextual gap of studies in Ugandan context.

2.3.1.2 Collaborative Learning and Student Engagement

Collaborative learning also called social constructivism according to Le et al. (2018) is a teaching strategy requiring students to work in small groups to better their learning. According to Vera et al. (2020), sharing ideas, brain storming, solving problems or just creating something new are forms of students working in groups. In this study, collaborative learning refers to carrying out activities in small groups with other students. Different academics link student participation to collaborative learning. For example, Backer et al. (2018) investigated impact of

collaborative learning on middle school students' engagement in Minnesota schools. Qualitative analysis supported the conclusion that collaborative learning improved learning and enhanced student engagement.

In a study, Bharucha (2017) investigated the association between collaborative approaches and student engagement using Bachelor of Management students from College of Mumbai in India. The results showed that students who benefited from collaborative approach had significantly better levels of satisfaction and, consequently, more engagement than those using the traditional system. Hernandez (2012), at University College Dublin in Ireland investigated association connecting collaborative learning to engagement of students with students as units of analysis. Qualitative analysis showed that collaborative learning promoted student engagement. In another investigation, role social media plays during collaborative learning were explored by Ansari and Khan (2020) among university students in eastern India. The study revealed that sharing of knowledge online with teachers and peers greatly influenced performance of students.

Chandra (2015) used undergraduate students in study on collaborative learning for academic success among students in undergraduate programme at Shriramswaroop Memorial University in India. The results showed that undergraduate students who used collaborative learning methods performed better than those who used individual learning approaches. The relationship between collaborative teaching and student engagement was examined by Mcgarrigle (2013) at Irish Institute of Technology, Carlow. An examination of qualitative data showed that collaborative learning enhanced student engagement. According to studies presented, collaborative learning related to student engagement. However, majority of the studies

were carried out in universities, leaving a gap in secondary school context which called for this study.

2.3.1.3 Teacher support and Student Engagement

Teacher support concerns offering care, respect, understanding, and help by teachers to students (Yu & Singh, 2018). Teacher support includes practices such as teacher investment, positive regard, teacher expectation, and teacher accessibility (Le et al., 2018). According to Metheny et al. (2008), invested effort refers to perceptions that teachers engage in helping behaviours geared toward future success and achievement. In this study, invested effort means help provided by teachers to students to make them succeed. Positive regard refers to impressions of educators as being compassionate, empathetic, and committed to students (Metheny, 2008). According to Metheny et al. (2008), teacher expectation refers to teachers' conveying positive expectation for educational success. Some scholars conducted an investigation on teacher expectation and student engagement. Teacher Accessibility refers to student perception that the teacher is available and willing to help students seeking support or information (Metheny, 2008).

A number of studies have been carried out on teacher support and student engagement. For example, Akiba and Liang (2016) studied effect of teacher professional learning activities on middle school student achievement in mathematics in Missouri. The result showed significant increases in student mathematics achievement are correlated with teacher-driven research activities through professional conference presentation and participation. Hazari et al. (2015) investigated linking teacher positioning, student involvement, development of students' physics identities, and power structures in physics classroom at Florida International University. The

study revealed that, student engagement with material in class, as well as eventual formation of physics identities, is influenced by the way physics teachers position themselves.

In a study at Maria Grzegorzewska University in Warsaw, Poland, Gajda et al. (2017) investigated creative learning in the classroom using multi-method approach. The result revealed that teacher behaviours were linked to fostering creativity in classroom and students' positive involvement, self-expression, and conceptualization. The impact of modelling by teachers on students' independent use of technology for language acquisition outside classroom was examined by Lai (2015) at University of Hong Kong. Through improved facilitating settings and computer self-efficacy, the study found that instructor behaviour support affected learner self-directed technology use. Paolini (2015) explored enhancing teaching effectiveness and student learning outcomes at Kean University, New Jersey. The findings indicated that when students were held accountable by teachers for their own learning, students adopted an active role in the process through engagement in their assignments, class activities, and events. The literature suggests significant effort was made by scholars on invested effort and student engagement. However, the studies were mostly in universities leaving gap in the context of secondary schools that this study examined.

Further, De Vito (2016) studied at Sacred Heart University, the elements that affect student engagement. According to the study, pupils felt more at ease and involved in learning when they were treated with respect and encouragement in addition to being urged to work together. Shernoff et al. (2017) explored influence of high school classroom environment on learning as mediated by student engagement at Rutgers University, New Jersey, USA. The result revealed that positive relationship in classroom has impact on student engagement, which in turn impacts perceived learning. In a study, Bockmier-Sommers et al. (2017) investigated at the

University of Illinois Springfield, students' perceptions of teachers' honesty, respect, and empathy and their effects on student participation. The findings showed that empathy and high regard had the strongest correlations with emotional and social engagement.

In another study, Pedler et al. (2020) studied teachers' role in student engagement, a review at Southern Cross University. The result indicated that supportive relationship, where teachers show concern for their students and their needs is essential to fostering positive attitudes towards learning and the capacity to overcome obstacles and hardship. Further, Martin and Collie (2019) studied teacher–student relationship and student engagement in High School at University of New South Wales on does negative and positive relationship with teachers matter? The study showed that significant positive teacher student relationship predicted greater school engagement of students. Thus, the findings of this study were consistent with findings of previous studies that there was significant relationship between positive regard and student engagement. The literature shows that the studies were mixed with some in high schools and others in universities. However, all the studies were in western world which left gap in Ugandan context.

In their study, Timmermans et al. (2016) conducted an investigation into relationship between teacher expectation and teacher perception of student attributes in Dutch Primary Schools. The findings revealed that teachers had higher expectation for students perceived as self-confident and having positive work habits. Mizala et al. (2015) explored at the University of Chile, pre-service elementary school instructors' perceptions about how well students would perform were influenced by their fear of math and the gender of the students. The study showed that mathematics anxiety negatively influenced pre-service teachers' expectation of students, and

that future mathematics teachers' expectations of mathematics performance were lower for girls than for boys.

Gentrup et al. (2020) explored self-fulfilling prophecies in the classroom; teacher expectations, teacher feedback and student achievement at Humboldt-Universität zu Berlin, Germany. The findings revealed that high teacher expectation was low teacher expectations were linked to decreased achievement in reading only, while high teacher expectations were linked to improved achievement in reading and mathematics. Timmermans et al. (2015) studied accurate, in accurate or biased teacher expectation at Dutch University of Groningen. The study indicated that high expectation has been linked to high levels of student accomplishment, and instructors' expectations for pupils in high-performing groups or classes with a limited percentage of those from low-SES families were greater.

Denessen et al. (2020) investigated teachers' treatment of their students using an observational study on teacher-student interaction as a function of teacher expectation and student achievement at Leiden University, Netherlands. The findings revealed that there was relationship between teacher expectation and teacher classroom interactions. Teachers gave more directive feedback to low-expectation students, who were also students who performed low in maths. Timmermans et al. (2021) at the University of Groningen in the Netherlands, looked into whether teachers should preserve initial perceptions or change their expectations for pupils' maths achievement. The findings demonstrated that pupils' mathematics achievement increased when teachers set higher standards for them and assigned them more difficult assignments. The literature showed that studies have been conducted on teacher expectations. However, majority of the studies were in the context of universities which left a gap in the context of secondary schools that this study investigated.

Additionally, at Aurora University, Strati et al. (2016) looked at perceived challenge, teacher assistance, and instructor obstruction as determinants of student participation. The study found that teachers were generally devoted to helping students achieve their learning tasks by giving them tools and support, and that their efforts helped to raise student engagement. At the University of Newcastle in Australia, Stone and Springer (2019) studied interactivity, connectivity, and "teacher-presence" by enticing and keeping students online. The results showed that online students can be effectively engaged, supported, and motivated to stick with the online learning environment by combining regular, prompt communication between teacher and students with interactive and engaging course design. Cox et al. (2015) studied promoting teacher presence strategies for effective and efficient feedback to student online writing at Boise State University. The findings showed that teacher online presence was essential for creating class tone and establishing learning community and that each interaction between student and teacher builds relationship of trust and mutual respect.

Bakar (2018) investigated influence of professional teachers on Padang vocational school students' achievement at State University of Padang, Indonesia. According to the study, teachers with strong classroom competencies were better able to encourage students, explain lessons clearly, use media effectively, guide students, make learning activities enjoyable, and ensure that students easily understood the information being presented. Bagheri and Zenouzagh, (2021) explored effect of comparative study of face-to face and computer mediated conversation modalities on student engagement using speaking skill in focus at Islamic Azad University, Iran. The result indicated that limited engagement was associated with appeal for help, silence, pauses, hesitations, focus on syntax, involvement with procedural talk and local language use. The studies indicate that several academics have investigated teacher accessibility and student

engagement. However, the studies were in Western countries, studies in Ugandan secondary schools were required which called for this study.

2.3.1.4 Contextual Teaching and Student Engagement

Contextual learning is strategy that emphasizes student participation in the material learned with teachers and relating the knowledge learnt to real-life situations (Lotulung et al., 2018). Contextual learning strategies include inquiry, questioning, constructivism, reflection, modeling, and authentic assessment (Roza et al., 2019). Some scholars have conducted studies relating contextual learning to student engagement. For instance, Qudsyi et al. (2018) investigated whether contextual teaching-learning method improved student engagement among college students at Universitas Islam Indonesia. The results indicated that contextual learning had little to no effect on student engagement.

Köse and Tosun (2015) sought to determine the effect of context based learning on student's biology success and attitudes on biology course at Bayburt University in Turkey. Their findings revealed that there was meaningful difference between context based learning and traditional learning on student's success and attitudes towards biology. Marini (2016) conducted a study on how contextual learning enhanced student learning outcomes at University of Jakarta in Indonesia. The study discovered that contextual learning greatly improved student learning results. Lam, et al. (2012) investigated understanding student engagement using Chinese junior secondary school students. The results revealed that student engagement was highly associated with contextual learning model. Whereas, studies have been conducted on contextual learning and student engagement, empirical gaps emerged. There was therefore the need to undertake further studies on the concepts which called for this study.

2.3.2 Behaviourist Teaching Approaches and Student Engagement. Approaches to teaching that place emphasis on behavioural modifications brought on by stimulus-response relationships are known as behaviourist approaches (Mugizi et al., 2020). In this study, behaviourist approaches are teacher centred methods of instruction which are; immediate feedback, continuous practice, and reinforcement (Ertmer & Newby, 2013; Omomia & Omomia, 2014; Rao, 2018). There are scholars that have related behaviourist teaching approaches to student engagement. For instance, Sancho-Vinuesa et al. (2013) used students from Open University of Catalonia in Spain, to study the role that immediate feedback plays in boosting student engagement. According to the findings, giving students feedback increased performance and decreased dropout rates. Kang (2016) conducted a study on impact of continuous practise on efficient and worthwhile learning. The result demonstrated that continuous practise increased cognitive engagement. In Semarang, Indonesia, Hapsari and Anni (2017) investigated the impact of token economy strategy on student behavioural engagement. The findings showed that reinforcement increased behavioural engagement. The body of research demonstrates how behaviourist instructional strategies affect student engagement.

2.3.2.1 Immediate Feedback and Student Engagement

According to Leibold and Schwarz (2015), immediate feedback is the sharing of information about one's performance by an agent like a teacher, peer, or any other individual. In this study, immediate feedback refers to telling students if they are accurate or incorrect and advising them on how to fix any errors that occur. Immediate feedback is crucial since it can help correct mistakes and improve performance (Omer & Abdularhim, 2017). Giving feedback has two goals: to highlight accomplishments and offer suggestions for growth. Immediate feedback and student

engagement have been linked by some academics. For instance, Cooper et al. (2018), investigated impact of teachers' prompt intervention on academic engagement of children with emotional and behavioural issues in a small rural community in Southeast of United States. The findings showed that prompt response raised academic engagement among students. Using students from Open University of Catalonia in Spain, Sancho-Vinuesa et al. (2013), investigated role of immediate feedback in boosting student engagement with the course. The findings suggested that giving students feedback increased performance and decreased dropout rates. On the other hand, Chinese students who spoke English were used in Zhang and Hyland's (2018) analysis of the importance of feedback to student engagement. According to the research, formative evaluation with immediate feedback showed significant potential to increase student engagement. While the studies showed a connection between immediate feedback and student involvement, literature search indicated that only a small number of studies had been conducted. In addition, no research had been conducted in secondary schools in Uganda.

2.3.2.2 Continuous Practice and Student Engagement

Continuous practice or repetition involves pupils studying new information repeatedly and taking exams on it (Ludigo et al., 2019). The guiding premise of continual practice is that it usually results in greater learning of concepts, facts, and abilities (Kang, 2016). Continuous practice in this study refers to performing a task repeatedly in order to perfect it. Continuous practice is crucial to mastery because it keeps the ability to retrieve information from memory from deteriorating (Ludigo et al., 2019). Continuous practice has been linked by some academics to student engagement. For instance, Carrillo-de-la-Pea and Perez (2012) used students from a university in Spain to study impact of continuous practice through continuous assessment. The

study reported that continuous assessment influenced academic achievement in substantial manner. Additionally, the findings revealed that students considered continuous practice as a way of promoting better learning.

Holmes (2018) used undergraduate students at University of Northampton in UK to evaluate impact of continuous assessment on student engagement. The results showed that continuous practice boosted participation. Kang (2016) examined impact of continuous practice on efficient and worthwhile learning in a separate study. The results demonstrated that continuous practice increased cognitive engagement. The results of the literature search still indicated that there were few studies relating the issues that necessitated this study.

2.3.2.3 Reinforcement and Student Engagement

Reinforcement refers to an increase or decrease in activity or something in order to make an organism to behave in desired way (Zhou & Brown, 2017). Positive reinforcement refers to any pleasurable input that improves the chance of a desired behaviour (La Freniere & Newman, 2019). Negative reinforcement entails removing, reducing, delaying, or preventing stimulation from reinforcing the response on which they rely (Ludigo et al., 2019). In this study, "reinforcement" refers to behaviour that is encouraged in order to get desired result from a student. Some academics have focused on the association between reinforcement and student engagement. For instance, in a qualitative study involving high school students in Bandung, Indonesia; Firdaus (2015) examined usage of praise and its impact on student engagement. The findings demonstrated that after receiving praise from teacher, children exhibited positive engagement.

Hapsari and Anni (2017) conducted a study to assess the impact of token economy strategy on student behavioural engagement in a school in Semarang, Indonesia. The findings showed that reinforcement increased student behavioural engagement. Kennedy and Jolivette (2008) conducted a study involving patients at a residential treatment centre in the USA to examine the impact of teachers' positive verbal reinforcement. According to the findings, as positive verbal reinforcement increased, students spent less time outside of class, which is a measure of engagement. Additionally, a review by Markelz and Taylor (2016) looked at the effect of instructor recognition on student attendance habits. The review showed instructor appreciation had favourable impact on attendance, with boost in on-task behaviour and reduction in troublesome behaviour.

In relation to the above, Soto (2014) studied students from a school in central California, USA in a study examining the effect of behaviour-specific praise on student engagement. The study found that giving students more praise encouraged them to support their own development. Further, Tshomo and Lhaden (2015), used pre-service student teachers to study how reinforcement tactics assisted students to enhance their learning and performance. According to the results, increasing use of reinforcement encouraged student participation. Despite the literature's suggestion that reinforcement and student engagement go hand in hand, all of the studies were conducted outside Uganda, leaving a gap in research that this study set out to fill.

2.4 Constructivist, Behaviourist Teaching Approaches and Student Engagement

Studies that focus on behaviourist and constructivist teaching strategies and student engagement have been conducted. In Iraq's Ishik University in Erbil, for instance, Serin (2018) compared teacher and student-centred practices. Result showed that constructivist teaching strategies were

most popular in the classroom, but behaviourist strategies, in which teacher encourages active engagement, also played key role in assisting students in achieving academic achievement. The relationship between constructivism and student engagement is therefore moderated by behaviourist teaching approaches. In order to come up with a new definition of blended learning, Cronje (2020) conducted a study at Cape Peninsula University in South Africa, to see if constructivism and behaviourism could coexist in blended learning. Result showed that for effective learning to take place, it was important to combine constructivist and behaviourist methods. Therefore, an interaction between the constructivist and behavioural teaching approaches positively influences student engagement.

In a separate study, Algahtani (2017) investigated how constructivism and behaviourism were used to teach students with intellectual disabilities at the University of Jeddah, in Saudi Arabia. Result showed that optimal method for structuring lessons and teaching was a blend of constructivism and behaviourism. At Calderdale Royal Hospital, University of Manchester, and University of Huddersfield in United Kingdom, Lockey et al. (2020) investigated advanced life support courses and educational theory. According to the findings, advanced life support (ALS) training was impacted by a mix of factors of behaviourist and constructivist techniques and provided diversified framework to accommodate wide range of learning styles. According to the research mentioned above, constructivist and behaviourist methods are related to student engagement. However, there weren't many studies conducted in Uganda's secondary schools, which revealed contextual and empirical gaps. While some academics promoted use of constructivist teaching strategies, others, like Serin (2018), found that, despite constructivist teaching strategies being most popular in the classroom, behaviourist teaching strategies, which encourage active engagement by teacher, were more effective in helping students succeed

academically. Therefore, there was an empirical gap of whether to use constructivist teaching approaches only or use both methods in teaching and learning prompting this study to interrogate use of both constructivist and behaviourist teaching approaches.

Chapter Three

Methodology

3.0 Introduction

The section presents methods used to conduct this study. It covers the methodology of research, design of research, population of study, size of sample and selection of sample techniques, sources of data, measurement of variables, data collection tools, instrument quality, data analysis, data collection procedure and research ethical consideration.

3.1 Research Approach

This study used mixed methods approach but quantitative research approach was the dominant approach. An investigation's research objectives are addressed using quantitative research approach, which uses and analyses numerical data using particular statistical procedures (Apuke, 2017). The study collected quantitative data that was numerically analysed with statistical procedures to make generalisation. Descriptive statistics, specifically frequencies, percentages, means, and standard deviation, were employed in the statistical analysis of the data while inferential statistics involved structural equation modelling. This helped to draw inferences on the variables under study. Qualitative approach was used to explain descriptive quantitative data.

3.2 Research Design

The investigation adopted mixed methods research design. The quantitative research designs used were the correlation and cross-sectional research designs. The correlation design is a strategy for determining whether two or more variables of interest have a relationship between them (Fisher & Bloomfield, 2019). In a cross-sectional survey, data from the population are

analysed at a single point in time (Wang & Cheng, 2020). In this study, data from students were collected at once with the aid of questionnaire as data collection instrument. The cross-sectional research design was preferred because it allows collection of data using self-administered questionnaire which enabled researcher to reach considerable number of students (Sedgwick, 2014). It also helped to collect data within a short period saving time and cost to have research process accomplished. Qualitative data from teachers was also collected using an interview guide. The quantitative research design aided the testing of hypotheses and drawing statistical conclusions, whereas the qualitative design supported quantitative design to provide explanations to quantitative data.

3.3 Study Population

The population of study consisted of 3487 students drawn from seven (7) government aided secondary schools (Ministry of Education & Sports, UPE/USE Data, 2020) in Arua Municipality. The population of teachers was obtained after saturation. This population was selected because students and teachers could easily report on constructivist teaching approaches and student engagement in selected secondary schools since teachers were involved in teaching and students were involved in learning and could report on their own level of engagement.

3.4 Sample Size

A sample size of 341 students was selected using Krejcie and Morgan's Table (1970) for determining sample size for given population. The sample size for teachers was 15 teachers determined by data saturation. The sample size of students in each school was established using

proportionate sampling to ensure equitable representation of schools using the formula for determining sample size;

$N = \frac{\text{School population}}{\text{Target population}}$ X sample size. Where; n is the individual school sample size

E.g. Sample size for School 1

$N = \frac{853}{3487} X\ 341 = 83$

The questionnaire survey's sample size was as shown in Table 3.1.

Table 3.1:

Population and sample size

School	Target population	Sample size
School 1	853	83
School 2	526	51
School 3	708	69
School 4	255	25
School 5	270	27
School 6	272	27
School 7	603	59
Total	**3487**	**341**

Source: UPE/USE Data MoES (2020)

3.5 Sampling Techniques

Participants were chosen using two ways of sampling which were simple random sampling and Intensity purposive sampling. Simple random sampling is type of sampling where each individual is chosen by chance. This technique helped to choose students at random and entirely

by chance for the study. This ensured each student had same opportunity of being selected for the study. Simple random sampling produces results that can easily be generalised (Cresswell, 2014). Teachers were chosen for in-depth interviews using intensity purposive sampling. With this sampling, the researcher is free to select a limited number of cases that will offer in-depth knowledge and comprehension of the subject of interest (Palinkas et al., 2015). Intensity purposive sampling was used to select teachers from schools chosen for study.

3.6 Measurement of Variables

The study variables included constructivist teaching, behavioural teaching and student engagement. The measures for the same were as presented in Table 3.2.

Table 3.2:

Operationalization of Variables, Scale, Sources and Reliabilities

Variable	Nature of variable	Indicators	Scale & item	Source & Reliability
Student Engagement	Dependent	- Behavioural - Affective - Cognitive - Agentic	Ordinal	Lam et al. (2014) α = 0.84, 0.80, 0.89 Mameli and Passini (2018) α = 0.85
Constructivist Teaching Approaches	Independent	- Active learning - Invested effort, Positive regard, Teacher expectation, Teacher accessibility - Collaborative learning	Ordinal	Metheny et al. (2008) α = 0.808, 0.97, & 0.857
Behaviourist Teaching Approaches	Moderating	- Immediate feedback - Continuous practice - Reinforcement	Ordinal	Mugizi et al. (2020) α = 0.889, 0.846 & 0.852

3.7 Data Collection Instruments

In order to gather data for the study, two different methods were used, including an interview guide for teachers and a self-administered questionnaire for students.

3.7.1 ***Self-Administered Questionnaire.*** Self-administered questionnaire (SAQ) is a tool used for obtaining quantitative data. The questionnaire comprised of four sections A, B, C and D. Section A on students' demographic traits, section B on student engagement (DV) with indicators namely cognitive, agentic, affective, and behaviourist engagement, (Reeve, 2013), Section C on constructivist teaching approaches (IV) with components active learning (Wilson, 2021), invested effort, positive regard, teacher expectation, teacher accessibility (Metheny et al., 2008) and collaborative learning (Atxurra et al., 2015). Section D on behaviourist teaching approaches including immediate feedback, continuous practice and reinforcement (Mugizi et al., 2020). The question items in the instrument were scaled using five-point Likert Scale (where 1 indicates strongly disagree, 2 disagree, 3 unsure, 4 agree, and 5 strongly agree).

3.7.2 ***Interview Guide.*** An interview guide is a tool for gathering qualitative data through face-to-face interviews. Respondents were asked their ideas and experiences about research problem in face-to-face interviews. Interviews elicit great deal of information as researcher speaks with each participant individually (Sutton & Austin, 2015). Three questions were on independent variables, four on dependent variable and three on moderating variable for each construct. Data from interviews was gathered from teachers of schools chosen.

3.8 Procedure of Data Collection

After approval of proposal, an introductory letter was obtained from directorate of research and graduate training granting permission to collect data. Researcher presented the introduction letter to City Education Officer who granted written permission to researcher to collect data from selected secondary schools. The researcher presented the letter to the head teachers of the chosen schools who in turn authorised host teachers to take part in the study and provide students to researcher for data collection. Researcher got students class by class. In each class students were selected using random sampling technique where students were made to randomly pick from a pack containing yes and no. All students who picked yes were then selected for the study. Teachers were selected for the study based on their availability and willingness to be interviewed. Two or more teachers were selected from each school and interviewed individually until researcher reached saturation. Their responses were recorded.

3.9 Quality Control

Quality control is about validity and reliability of instruments. Validity and reliability were attained for both quantitative and qualitative data.

*3.9.1 **Validity for Quantitative Data.*** The study established content validity of instruments by ensuring that indicator variables conformed to conceptual framework Figure 1.1. Validity tests included calculating Heterotrait-Monotrait (HTMT) Discriminant validity, and Factor analysis using Structural Modelling. The degree to which constructs empirically differ from one another is known as discriminant validity. As a result, evaluation of discriminant validity is essential in any study using latent variables and a variety of items and indicators to represent the constructs

(Hamid et al., 2017). In this study, Discriminant validity was employed to make sure that the latent constructs used to measure the connection under study were actually distinct from one another and weren't assessing the same thing, which may have resulted in the development of multicollinearity. Due to its superior performance, which allows it to attain greater specificity and sensitivity rates (97%-99%) as opposed to cross-loading (0.00%) and Fornell-Larcker (20.82%), the heterotrait-monotrait (HTMT) ratio of correlation was utilised, as proposed by Hamid et al. (2017). Further, Heterotrait–Monotrait (HTMT) ratio of correlations was calculated because it helped in assessing reflectively measured construct Discriminant validity in comparison with other construct measures in the same model. This helped to establish whether the indicators of a construct actually caused the construct. The results were as presented in Table 3.3.

Table 3.3:

AVE and Heterotrait Monotrait (HTMT) Discriminant Validity Assessment

Measures	AVE	SE	AE	BE	CE	AGE
SE						
AE	0.755	0.695				
BE	-	0.428	0.693			
CE	0.804	0.775	0.710	0.637		
AGE	0.893	0.886	0.782	0.379	0.637	
CT		CT	CL	AL	COL	TS
CL	0.787	0.311				
AL	0.808	0.563	0.457			
COL	0.886	0.116	0.097	0.606		
TS	0.571	0.406	0.227	0.532	0.074	
BT		BT	CP	IF	RI	
CP	0.856	0.337				
IF	0.890	0.624	0.078			
RI	0.889	0.564	0.544	0.282		

Key: AE = Affective Engagement, AL = Active Learning, AGE = Agentic Learning, BE = Behavioural Engagement, BT= Behavioural Teaching, LC = Cognitive Learning, CL = Collaborative Learning, Col = Contextual Learning, CT = Constructivist Teaching, CP = Continuous Practice, IF = Immediate Feedback, RI= Reinforcement, SE= Student Engagement

The test results in Tables 3.3 show that the Heterotrait–Monotrait ratio of correlations (HTMT) condition was fulfilled because all values did not exceed 0.90 (Henseler et al., 2015). Therefore, the measures were discriminately valid. Further, Convergent validity which refers to assessment that measures level of correlation of multiple indicators of same construct was established using Average Variance Extracted (AVE). Average Variance Extracted (EVA) measures convergent validity showing that variations in items were explained by the constructs. In this study, AVE values were greater than the acceptable threshold of 0.5 confirming convergent validity (Alarcon et al., 2015). The results in Table 3.3 show average variance extracted (AVE) for each construct and the dimension. All constructs had AVE values greater than acceptable threshold of 0.5 confirming convergent validity (Alarcon et al., 2015) except for behavioural engagement which was excluded from inferential analysis. To further ensure that the constructs were independent, Factor Analysis was carried out on indicators of different constructs measuring study variables using structural equation modelling. All those indicators with values above 0.50 were considered valid measures of the constructs (Hair Jr et al., 2020). The results are presented in the appropriate models in chapter four.

3.9.2 Reliability for Quantitative Data. Reliability describes degree to which measures of a construct are consistent and dependable, that is, how consistently and dependably they measure what they are supposed to be measuring (Kubai, 2016). Ahmed and Ishtiaq (2021) indicate that it is the consistency of a method in measuring something. Thus, measurement is considered reliable if the same results can be obtained consistently by applying the same methodology under similar conditions. In this study, Composite Reliability (CR) and Cronbach Alpha (α) were used to determine internal consistency of measurement tool. Composite reliability (construct

reliability) refers to measure of internal consistency in scale items. Thus, reliability of a construct should be at least 0.70 (Dash & Paul, 2021). On the other hand, Cronbach Alpha is a statistic tool which demonstrates that tests and scales that have been constructed or adopted for research projects are fit for purpose (Taber, 2018). In testing reliability, Composite Reliability (CR) was preferred because of Cronbach Alpha's limitation of assuming that all indicator traits are the same in the population lowering reliability values. Moreover, Cronbach's Alpha is sensitive to number of items in the scale and generally tends to underestimate internal consistency reliability (Hair Jr. Et al., 2014). However, Composite Reliability is liberal as it takes into account outer traits of indicator variables (Dash & Paul, 2021).

Table 3.4:

Reliability for Study Constructs

Student Engagement	**A**	**CR**
Affective Engagement	0.731	0.848
Agentic Engagement	0.846	0.900
Cognitive Engagement	0.702	0.839
Student Engagement	1.000	1.000
Constructivist Teaching Approach	**A**	**CR**
Accessible	0.907	0.924
Active Learning	0.808	0.863
Collaborative Learning	0.770	0.835
Invested	0.668	0.800
Positive Regard	0.623	0.797
Teacher Expectations	0.635	0.803
Constructivist Teaching	1.000	1.000
Behaviourist Teaching Approach	**A**	**CR**
Continuous Practice	0.907	0.935
Immediate Feedback	0.890	0.919
Reinforcement	0.702	0.831
Behaviourist Teaching Approaches	1.000	1.000

Results show Cronbach Alpha and Composite Reliability for study constructs. The results show that values for composite reliability that were used to test the reliability of all the constructs were all above 0.7 indicating satisfactory level of reliability for the items measuring the constructs. This is because according to Lai (2021), the minimum level of composite reliability is 0.70.

*3.9.3 **Reliability for Qualitative Data.*** Reliability of qualitative data was attained by cross checking transcripts from data that was collected from secondary school teachers who were interviewed during data collection process. Transcription involves translation or transformation of sound or image from recording to text. Cross checking transcripts of data helps to make sure that transcribed data does not contain mistakes made during transcription of data (Cresswell, 2014). Cross checking of data helped to ensure that the transcribed data remained consistent without deviation from the original data obtained from recordings of interview after transcription. Cross checking transcripts also helped to minimise mistakes associated with transcription of data in qualitative studies.

3.10 Data Analysis

Data analysis involved both quantitative and qualitative methods. Quantitative data analysis involved use of descriptive analysis measures such as frequencies, percentages, skewness, standard deviation and means. Smart PLS was used in carrying out inferential data analysis. Smart PLS determines path models describing the relationship between indicators and variables (Hair et al., 2017). Structural equation modelling (SEM) was used to test for interrelationship among study variables. Data from qualitative sources were analysed using thematic analysis. Thematic analysis is a qualitative data analysis method that is frequently applied to a group of

texts, like an interview or transcripts. Finding reoccurring concepts, ideas, and theme (s) requires a comprehensive analysis of the data by the researcher (Braun & Clarke 2006; Caulfield, 2022).

Thematic analysis followed the six step process developed by Braun and Clarke (2006) involving; familiarization, coding, generating themes, reviewing themes, defining and naming themes, and writing up the report. Transcribing audio, reading the text and making quick notes, and generally looking through the data to become familiar with it were all part of the familiarisation process. Coding entailed selecting key phrases or sentences from our text and creating abbreviations, or "codes," to explain their substance. Generating themes involved looking over the codes created to identify patterns among them, and start coming up with themes. Several codes were combined into a single theme. To make sure that the themes were accurate and helpful summaries of the data, the review process compared the themes to the data set. Specifically defining each theme and determining how it contributed to the comprehension of the material and were necessary steps in the process of defining themes. The process of naming the themes required creating a brief and clear term for each one. The report described how often the themes came up and what they meant, including examples from the data as evidence.

3.11 Ethical Considerations

During the study, ethical issues observed were informed consent, anonymity, confidentiality and privacy. Respondents were made to understand why they should take part in the investigation. They freely chose to take part in the study. Study participants remained unknown in their responses. Confidentiality was followed throughout the research process. Participants were made

aware of how information they provide would be shared. Participants who refused to provide personal information on grounds of privacy had their wish respected.

Chapter Four

Data Presentation, Analysis and Interpretation

4.0 Introduction

This chapter is a presentation, analysis and interpretation of study results on constructivist, behaviourist teaching approaches and student engagement in secondary schools in Arua city, Uganda. The results include descriptive statistics, correlation and confirmatory regression results and qualitative explanations.

4.1 Students Demographic Characteristics

This section presents data on demographic characteristics of the students that are Sex, Age and Class. The results were as presented in Table 4.1.

Table 4.1

Students' Demographic Characteristics

Item	Categories	Frequency	Percent
Sex	Male	153	44.9
	Female	188	55.1
	Total	341	100.0
Age	Below 14 years	77	22.6
	14 - 18 years	222	65.1
	Above 18 years	42	12.3
	Total	341	100.0
Class	S1	84	24.6
	S2	85	24.9
	S3	85	24.9
	S4	87	25.5
	Total	341	100.0

The results in Table 4.1 show that (55.1%) of students were female with males being (44.9%). The results suggest that larger percentage of students were female. Nevertheless, responses of students male and female were captured since population of male students was equally high with a difference of (10.2%). The data on age of students showed that larger percentage (65.1%) were 14 to 18 years, followed by below 14 years (22.6%), and above 18 years (12.3%). These results suggest that students of different categories of age participated in the study. Thus, the results were representative of students of different ages. The results on class of students revealed that majority (87.0%) were in S4, followed by (85.0%) in S3 and S2 respectively, and (84.0%) in S1. The data shows that students were almost evenly distributed. The results thus show that students of different classes took part in the study. Therefore, the results were representative of students of different classes.

4.2 Descriptive Results on Student Engagement

Student engagement was studied as a many dimensional construct, describing behaviourist, cognitive, affective and agentic engagement.

4.2.1 Behaviourist Engagement. The construct of behaviourist engagement was studied using ten items. Table 4.2 presents descriptive results on the construct.

Table 4.2

Descriptive Results for Behaviourist Engagement

Behaviourist engagement	SD	D	U	A	SA	Mean
I try hard to do well in school	00 (0.0%)	100 (29.3%)	1 (0.3%)	237 (69.5%)	3 (0.9%)	3.42
In class, I work as hard as I can.	00 (0.0%)	69 (20.2%)	5 (1.5%)	257 (75.4%)	10 (2.9%)	3.61
When I am in class, I participate in class activities	00 (0.0%)	92 (27.0%)	3 (0.9%)	244 (71.6%)	2 (0.6%)	3.46
I pay attention to what my teachers are teaching when in class	1 (0.3%)	132 (38.7%)	5 (1.5%)	202 (59.2%)	1 (0.3%)	3.21
When I am in class I ensure that I do my work	00 (0.0%)	106 (31.1%)	4 (1.2%)	228 (66.8%)	3 (0.9%)	3.38
In school, I make sure I do everything possible to succeed	6 (1.8%)	232 (68.0%)	3 (0.9%)	98 (28.7%)	2 (0.6%)	2.58
When I am in class, I concentrate on what is to be learned	00 (0.0%)	253 (74.2%)	6 (1.8%)	79 (23.2%)	3 (0.9%)	2.51
I make sure I go over something again and again until I understand it	00 (0.0%)	242 (71.0%)	3 (0.9%)	94 (27.5%)	2 (0.6%)	2.58
I am an active participant in school activities such as sports day and clubs	1 (0.3%)	295 (73.2%)	7 (2.1%)	81 (23.8%)	3 (0.9%)	2.52
I volunteer to help in school activities such as sports day or club activities	2 (0.6%)	261 (76.5%)	2 (0.6%)	67 (19.6%)	9 (2.6%)	2.47

The results in Table 4.2 on whether students tried to do well in school showed that cumulatively, majority (70.4%) of students concurred while (29.3%) differed and (0.3%) remained without decision. The mean (3.42) implied that students fairly tried to do well in school. As to whether students worked as hard as they could, greater percentage (78.3%) of students concurred while

(20.2%) differed and 1.5% were without decision. The high mean (3.61) implied that majority of students worked as hard as they could. Regarding whether students participated in class activities, greater (72.1%) of students concurred while (27%) differed and (0.9%) were without decision. The mean (3.46) suggested that students participated fairly well in class activities. About whether students' paid attention to what teacher was teaching, majority (59.5%) of students concurred while (39.0%) differed and (1.5%) were without decision. The moderate mean (3.21) revealed that students fairly paid attention to what teachers were teaching. With respect to whether students ensured that they did their work, larger percentage (67.7%) of students concurred while (31.1%) differed and (1.2%) were without decision. The mean (3.38) meant that students fairly ensured that they did their work.

With regards to whether students did everything possible to succeed, higher (69.8%) of the students differed while (29.3%) concurred and (0.9%) were without decision. The low mean (2.58) implied that majority of students did not do everything possible to succeed. As to whether students concentrated on what was to be learned, greater percentage (74.1%) of the students differed while (24.1%) concurred and (1.8%) were without decision. The low mean (2.51) implied that most students did not concentrate on what was to be learned. On whether students went over something again and again until they understood it, larger percentage (70.9%) of students differed, while (28.2%) concurred and (0.9%) were without decision. The low mean (2.58) indicated that majority of students did not go over something again and again until they understood it.

Regarding whether students actively participated in school activities such as sports day and clubs, majority (73.2%) differed while (24.7%) concurred and (2.1%) were without decision. The low mean (2.52) showed that majority of students did not actively participate in school

activities such as sports day and clubs. As concerns whether students volunteer to help in school activities such as sports day or club activities, larger percentage (76.2%) differed, while (22.2%) concurred and (0.6%) were without decision. The low mean (2.47) meant that most students did not volunteer to help in school activities such as sports day or club activities. To find out how students rated behaviourist engagement, average index was calculated for ten items measuring construct. The summary results were presented in Table 4.3.

Table 4.3: Summary Results for Behaviourist Engagement

	Descriptive		**Statistic**	**Std. Error**
Behaviourist	Mean		2.97	0.031
engagement	95% confidence	Lower bound	2.91	
	interval for mean	Upper bound	3.03	
	5% trimmed mean		2.97	
	Median		2.80	
	Variance		0.32	
	Std. Deviation		0.56	
	Minimum		2.00	
	Maximum		4.00	
	Range		2.00	
	Interquartile range		0.80	
	Skewness		0.52	0.13
	Kurtosis		-0.77	0.26

The results in Table 4.3 show a mean = 2.97 and the median = 2.97 with a positive skew (skew = 0.52) which suggested that the results were normally distributed. The average mean also meant that students rated behaviourist engagement to be fair. The low standard deviation (0.56) indicated normal distribution of the responses. The normal distribution of results is also displayed by the normal curve in Figure 4.1.

Figure 4.1

Histogram for Behaviourist Engagement

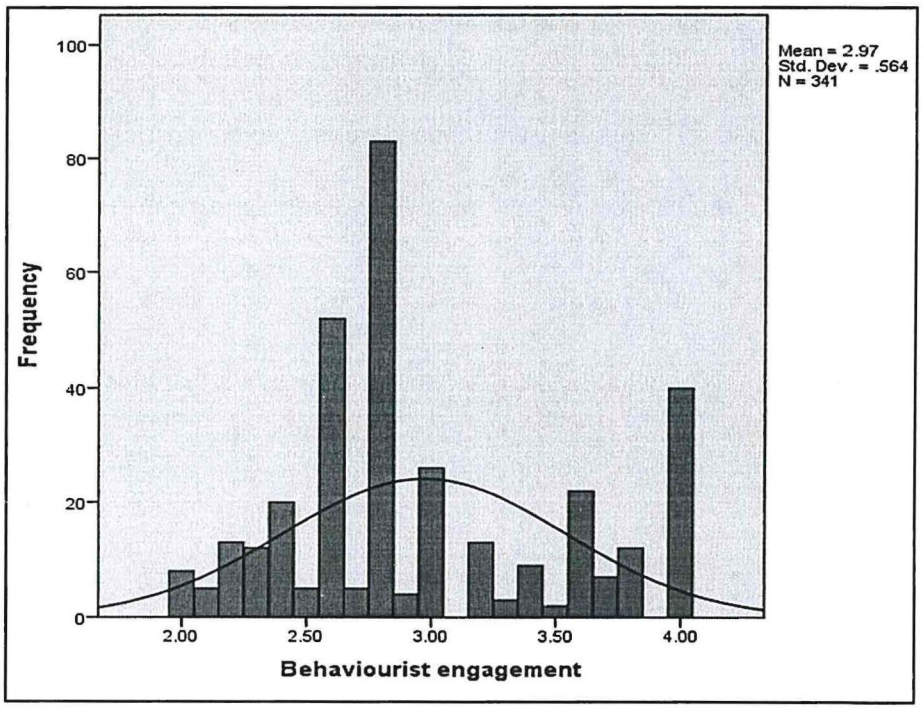


Figure 4.1 shows that the students rated their behaviourist engagement to be fair (mean = 2.97). The standard deviation (0.56) meant that the results were normally distributed. Therefore, results on behaviourist engagement were fit for correlation and regression analyses.

To find out whether the views held by the students on their behaviourist engagement were what the teachers perceived, in the interviews, teachers were asked to tell how behaviourist engagement of students in the school was. The teachers gave related responses which suggested that behaviourist engagement was fair. For example, T2 (teacher 2) said;

> The students are generally good when it comes to class work. They have good attitude towards class work. When they are given class work, they receive them positively and try to do them as quickly as possible. They make noise if they are left without class work.

In agreement with response, T5 stated;

> Some students like activities that involve the whole class. They participate very well in class activities given to them. Not all of them participate in class activities. There are others who will always try to dodge here and there. We know them.

Further, T8 remarked;

> Some students pay attention in class. You can see them looking at the teacher and the chalk board when the teacher is teaching. They listen to the teacher and even ask questions on areas that don't seem to be clear to them. But there are others who are just there disturbing."

These above qualitative responses support the descriptive statistics which indicated that behaviourist engagement was fair. Therefore, the findings revealed that behaviourist engagement was fair.

4.2.2 Cognitive Engagement. The construct of cognitive engagement was studied using nine items. In Table 4.4 are descriptive results on the same.

Table 4.4

Descriptive Results for Cognitive Engagement

Cognitive engagement	SD	D	U	A	SA	Mean
I spend a lot of time on my studies and homework	00 (0.0%)	329 (96.5%)	3 (0.9%)	9 (2.6%)	00 (0.0%)	2.06
I give all my attention to the lesson while in class	00 (0.0%)	215 (63%)	126 (37%)	00 (0.0%)	00 (0.0%)	2.74
I complete my homework on time	00 (0.0%)	242 (71%)	60 (29%)	00 (0.0%)	00 (0.0%)	2.58
I work as hard as I can at my tasks (assignments)	7 (2.1%)	289 (84.6%)	6 (1.8%)	33 (9.7%)	6 (1.8%)	2.24
I do my best in class	00 (0.0%)	184 (54.0%)	7 (2.0%)	150 (44.0%)	00 (0.0%)	2.90
I do not give up trying even when the tasks are hard	16 (4.7%)	313 (91.7%)	3 (0.9%)	6 (1.8%)	3 (0.9%)	2.02
I make effort to do my best to learn while in class	15 (4.4%)	313 (90.8%)	6 (1.8%)	7 (2.1%)	3 (0.9%)	2.03
I make sure I try my best when working on my tasks	16 (4.7%)	310 (90.8%)	5 (1.5%)	7 (2.1%)	3 (0.9%)	2.04
I read my notes even when there are no upcoming exams	5 (1.5%)	326 (95.5%)	2 (0.6%)	5 (1.5%)	3 (0.9%)	2.05

The results in table 4.4 on whether students spend a lot of time on studies and homewo indicated that, majority (96.5%) of students differed while (2.6%) concurred and (0.9%) were without decision.. The mean (2.06) corresponding to differed implied most students did not spend a lot of time on studies and homework. As to whether students give all their attention to lesson while in class, larger percentage (63.0%) differed while (37.0%) concurred. The mean

(2.74) implied average number of students did not give all their attention to the lesson while in class. Regarding whether students complete their homework in time, majority (71%) of students differed while 29%% concurred. The mean (2.58), suggested that majority of students did not complete their homework in time. About whether students work as hard as they could at tasks, greater percentage (86.7%) of the students differed while (11.5%) concurred and (1.8%) were without decision. The low mean (2.24) suggested that overwhelming majority of students did not work as hard as they could at tasks. With respect to whether students did their best in class, simple majority (54.0%) of students differed while (44.0%) concurred and (2.0%) were without decision. The mean (2.9) meant that average number of students did not work as hard as they could at tasks.

On whether students did not give up trying when the tasks were hard, greater percentage (96.4%) of students differed while (2.7%) concurred and (0.9%) were without decision. The low mean (2.02) revealed that students easily gave up trying when tasks were hard. Regarding whether students made effort to do their best to learn while in class, majority (95.2%) differed, while (3.0%) concurred and (1.8%) were without decision. The low mean (2.03) showed that students made very little effort to do their best to learn while in class. As concerns whether students tried their best when working on tasks, greater percentage (95.5%) differed while (3.0%) concurred and (1.5%) were without decision. The low mean (2.04) reflected that students tried very little to do their best when working on tasks. About whether students read their notes even when there were no upcoming exams, overwhelming majority (97.0%) differed while (2.4%) concurred and (0.6%) without decision.. The low mean (2.05) implies that overwhelming majority of students only read their notes for exams. To find out how students rated their

cognitive engagement, an average index was calculated for the nine items measuring construct. The summary results are presented in table 4.5.

Table 4.5

Summary Results for Cognitive Engagement

	Descriptive		**Statistic**	**Std. Error**
Cognitive engagement	Mean		2.07	.019
	95% confidence interval for mean	Lower bound	2.03	
		Upper bound	2.11	
	5% trimmed mean		2.06	
	Median		2.00	
	Variance		0.12	
	Std. Deviation		0.35	
	Minimum		1.44	
	Maximum		3.33	
	Range		1.89	
	Interquartile range		0.67	
	Skewness		0.49	0.13
	Kurtosis		-0.67	0.26

The results in Table 4.5 show a mean = 2.07 close to the median = 2.00 with a positive skew (skew = 0.49) and a low standard deviation = 0.35 suggesting that that the results were normally distributed. The mean also suggested that the students rated their cognitive engagement to be low. The normal distribution of the results is also displayed by the normal curve in Figure 4.2.

Figure 4.2

Histogram for Cognitive Engagement

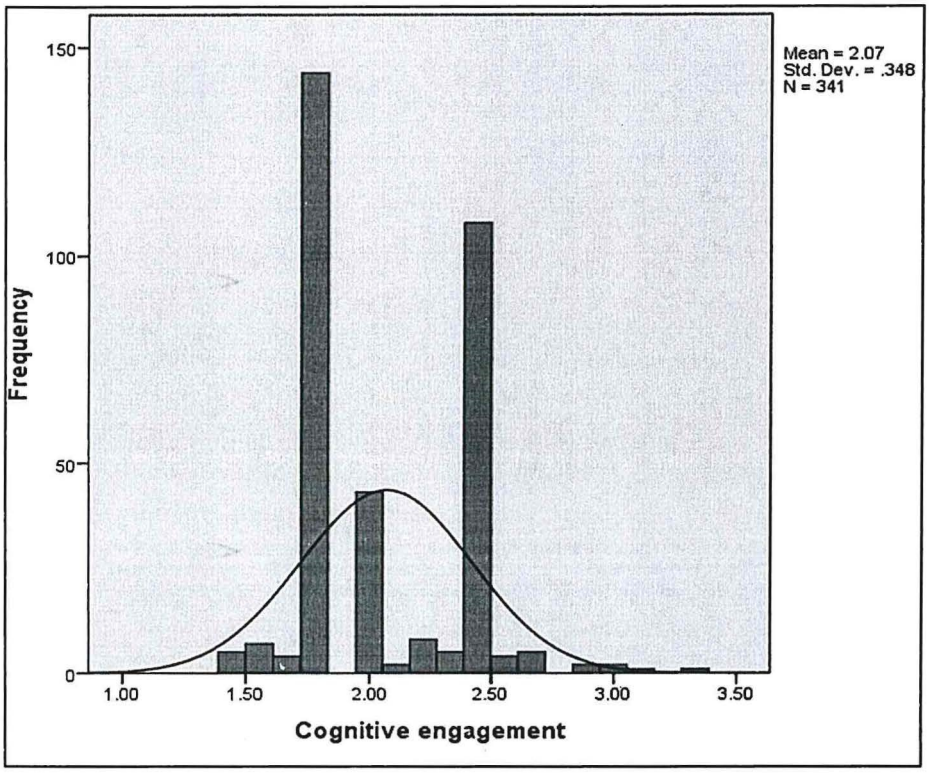


Figure 4.2 shows that the students rated their cognitive engagement to be low (mean = 2.07). The standard deviation (0.35) meant that the results were normally distributed. With a normal curve, results on cognitive engagement were fit for correlation and regression analyses.

To find out whether the views presented by the students on their cognitive engagement were what the teachers held, in the interviews, teachers were asked to tell how cognitive engagement of students was in the school. The teachers gave responses which suggested that cognitive engagement was low. For example, T1 said;

> These students are very disappointing and lazy. They don't want home work. They are always complaining there is no time. If you give them home work, they don't complete it on time. If you do not follow them up, others will not even bring at all.

In agreement with response, T7 stated;

> Our students like easy tasks. When you give them challenging tasks, they easily give up and complain that the task is difficult. They just don't want to do some research on their own in the library but rather be spoon fed all the time.

Further, T4 remarked;

> In this school, students only read when it is approaching examinations. When examinations are nearing, the students will read on their own. You will find them scattered everywhere but there is total quiet. You might even think they are not there.

The qualitative responses of teachers support descriptive statistics which indicated that the cognitive engagement of students was low. This is a clear indicator of a problem of student engagement at school. It means students do not concentrate on studies while at school. They are therefore most likely to engage in disruptive behaviour at school if not handled well.

4.2.3 Affective Engagement. The construct of affective engagement was studied using nine items. In Table 4.6 are descriptive results on the same.

Table 4.6

Descriptive Results for Affective Engagement

Affective engagement	SD	D	U	A	SA	Mean
I am very interested in learning	5 (1.5%)	325 (82.1%)	6 (1.8%)	1 (13.5%)	4 (1.2%)	2.31
What we are learning at school is interesting to me	9 (2.6%)	321 (80.9%)	7 (2.1%)	1 (13.5%)	3 (0.9%)	2.29
I like what I am learning in school	14 (4.1%)	315 (79.2%)	5 (1.5%)	5 (14.7%)	2 (0.6%)	2.28
I enjoy learning new things in class	12 (3.5%)	309 (77.4%)	6 (1.8%)	11 (16.4%)	3 (0.9%)	2.34
Learning at school is very interesting	3 (0.9%)	226 (66.3%)	43 (12.6%)	57 (16.7%)	12 (3.5%)	2.56
I like my school very much	21 (6.2%)	296 (73.6%)	8 (2.3%)	12 (16.7%)	4 (1.2%)	2.33
I am proud to be at this school and not any other	2 (0.6%)	303 (75.7%)	00 (0.0%)	33 (22.9%)	3 (0.9%)	2.48
Every morning, I look forward to going to school	40 (11.7%)	286 (73.3%)	3 (0.9%)	9 (15.8%)	3 (0.9%)	2.26
I am happy to be a student in this school	00 (0.0%)	219 (64.2%)	4 (1.2%)	113 (33.1%)	5 (1.5%)	2.72

The results in Table 4.6 on whether students were very interested in learning, cumulatively the larger percentage (83.5%) of the students differed while (14.7%) concurred and (1.8%) were without decision. The mean (2.31) below average showed that majority of students were not interested in learning. As to whether what students were learning at school was interesting to them, majority (83.4%) of the students differed while (14.4%) concurred and (2.1%) were without decision. The low mean (2.29) implied that what students were learning at school was

not interesting to them. Regarding whether students like what they were learning in school, the greater percentage (83.2%) of the students differed while (15.3%) concurred and 1.5% were without decision. The mean (2.28) below average suggested that students did not like what they were learning in school. About whether students enjoyed learning new things in class, cumulatively majority (80.8%) of the students differed while (17.3%) concurred and (1.8%) were without decision. The low mean (2.34) revealed that students did not enjoy learning new things in class.

With respect to whether learning at school was very interesting to students, larger percentage (67.2%) of the students differed while (20.2%) concurred and (12.6%) were without decision. The mean (2.56) mean that learning to majority of students at school was not very interesting. With regards to whether students liked their school very much, greater percentage (79.7%) of the students differed while (17.9%) concurred and (2.3%) were without decision. The mean (2.33) implied that most students did not like their school very much. As on whether students were proud to be at their school and not any other, majority (76.2%) differed, while (23.8%) concurred. The mean (2.48) means majority of students were not proud to be at their school. Regarding whether students looked forward to going to school every morning, larger percentage (82.3%) differed while (16.7%) concurred and (0.9%) were without decision. The very low mean (2.26) revealed that majority of students were not interested in going to school. With respect to whether students were happy to be a student in their school, moderate percentage (64.2%) differed, while (34.6%) concurred and (1.2%) were without decision. The average mean (2.71) means a moderate number of students were not happy to be a student in their school.

To find out how the students rated their affective engagement, an average index was calculated for the nine items concept. The summary results are presented in Table 4.7.

Table 4.7

Summary Results for Affective Engagement

	Descriptive		Statistic	Std. Error
Affective engagement	Mean		2.16	.029
	95% confidence interval for mean	Lower bound	2.10	
		Upper bound	2.22	
	5% trimmed mean		2.11	
	Median		1.80	
	Variance		0.30	
	Std. Deviation		0.55	
	Minimum		1.30	
	Maximum		3.60	
	Range		2.30	
	Interquartile range		0.50	
	Skewness		1.34	0.13
	Kurtosis		0.66	0.26

The results in Table 4.7 show a mean = 2.16 close to the median = 1.80) with a positive skew 1.34 which suggested that the results were normally distributed. The below average mean also meant that the students rated their affective engagement to be low. The low standard deviation (0.55) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.3.

Figure 4.3

Histogram for Affective Engagement

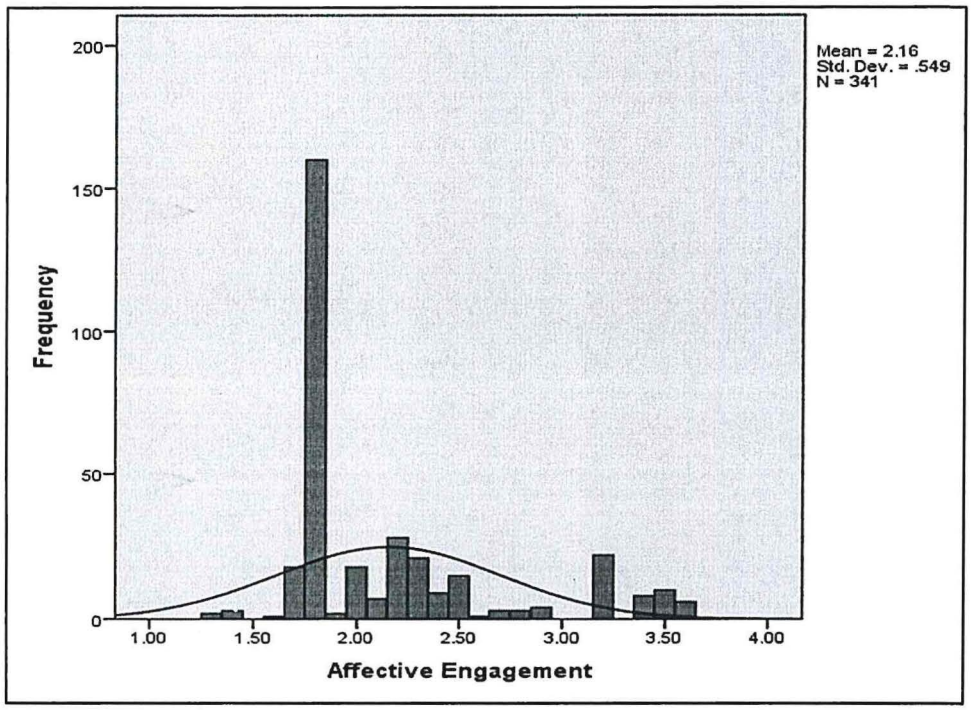


Figure 4.3 shows that the teachers rated their affective engagement to be low (mean = 2.16). The standard deviation (0.55) meant that the results were normally distributed. Therefore, results on affective engagement were fit for correlation and regression analyses.

To find out whether the views presented by the students on affective engagement were similar to those of teachers, in the interviews, teachers were asked to tell how they thought of affective engagement of students in the school. The teachers gave responses which suggested that the affective engagement of students was low. For example, T3 said; "Many of our students are just not interested in coming to school. There are very few students who attend classes regularly. Even those who attend regularly also come late and sometimes dodge early if the opportunity presents." Further, T7 stated;

> It is a tug of war to get students to represent the school in external functions. They are not proud of their school. You have to personally identify them yourself as a teacher otherwise they will not show up. It is worse with boys who just enjoy dodging around.

Further, T4 remarked; "I do not think these students like their school. If they liked their school they would all the time protect properties of the school. Instead they are the ones stealing and destroying properties of the school." The qualitative responses of teachers suggested that affective engagement of the students is low. This finding is consistent with the descriptive statistics which indicated that the affective engagement of students was low.

4.2.4 Agentic Engagement. The construct of agentic engagement was studied using seven items. In Table 4.8 are descriptive results on the same.

Table 4.8

Descriptive Results for Agentic Engagement

Agentic engagement	SD	D	U	A	SA	Mean
During class, I make sure that teachers help me to understand what they are teaching	3 (0.9%)	122 (35.7%)	6 (1.8%)	190 (55.7%)	20 (5.9%)	3.30
I make an effort to answer teacher's questions when asked in class	27 (7.9%)	298 (87.3%)	7 (2.1%)	5 (1.5%)	4 (1.2%)	2.01
I ask teacher questions in class and outside class in order to understand	12 (3.5%)	201 (58.9%)	5 (1.5%)	120 (35.2%)	3 (0.9%)	2.71
I make sure my teachers understand that there is something I need to understand	00 (0.0%)	111 (32.5%)	6 (1.8%)	193 (56.6%)	31 (9.1%)	3.42
If there is something I have not understood from teachers, I ask fellow students to explain to me	10 (2.9%)	155 (45.5%)	1 (0.3%)	172 (50.4%)	3 (0.9%)	3.01
I actively participate in class discussions at school	21 (6.2%)	305 (89.3%)	6 (1.8%)	5 (1.5%)	4 (1.2%)	2.02
When my classmates have different opinions on something, I make an effort to make them understand what I am thinking	4 (1.2%)	99 (29.1%)	9 (2.6%)	201 (58.9%)	28 (8.2%)	3.44

The results in Table 4.8 on whether students ensured that teachers help students to understand what the teacher was teaching, moderate percentage (61.6%) of students concurred while (36.6%) differed and (1.8%) were without decision. The mean (3.30) revealed that average number of students ensured that teachers help them to understand what they were teaching. Regarding whether students made effort to answer teacher's questions when asked in class, majority (95.2%) differed while (2.7%) concurred and (2.1%) were without decision. The low mean (2.01) meant that most students did not make effort to answer teacher's questions when asked in class. Concerning whether students ask teachers questions in class and outside class in order to understand, moderate percentage (62.4%) of students differed while (36.1%) concurred and (1.5%) were without decision. The mean (2.71) which is average implies that fair number of students do not ask teachers questions in class and outside class in order to understand. As to whether students made teachers understand that there was something they need to understand, moderate percentage (65.7%) of students concurred while (32.5%) differed and (1.8%) were without decision. The moderate mean (3.42) showed that fair number of students made teachers understand that there was something they need to understand.

About whether if there was something I have not understood from teachers, I ask fellow students to explain to me, average percentage (51.3%) of students concurred while (48.4%) differed and (0.3%) was without decision. The average mean (3.01) reflects that average number of students would ask fellow students to explain what he/she has not understood from the teacher. With respect to active participation in class discussions at school, majority percentage (95.5%) of students differed while (2.7%) concurred and (1.8%) were without decision. The mean (2.02) which is low meant that most students do not actively participate in class discussions at school. With regards to whether students who have different opinions on

something make effort to make others understand what they were thinking, moderate percentage (67.1%) of students concurred, while (30.3%) differed and (2.6%) were without decision. The mean (3.44) which is fair indicated that a fair number of students with different opinions on something make an effort to make others understand what they were thinking. To find out how the students rated their agentic engagement, an average index was calculated for the seven items concept. The summary results are presented in Table 4.9.

Table 4.9

Summary Results for Agentic Engagement

	Descriptive		**Statistic**	**Std. Error**
Agentic engagement	Mean		2.84	0.030
	95% confidence interval for mean	Lower bound	2.78	
		Upper bound	2.90	
	5% trimmed mean		2.85	
	Median		3.14	
	Variance		0.32	
	Std. Deviation		0.56	
	Minimum		1.71	
	Maximum		3.86	
	Range		2.14	
	Interquartile range		1.00	
	Skewness		- 0.52	0.13
	Kurtosis		-1.26	0.26

The results in Table 4.9 show a mean = 2.84 close to the median = 3.14. Therefore, despite the negative skew (- 0.52), the results were normally distributed. The average mean also meant that the students rated their agentic engagement to be fair. The low standard deviation (0.56) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.4.

Figure 4.4

Histogram for Agentic Engagement

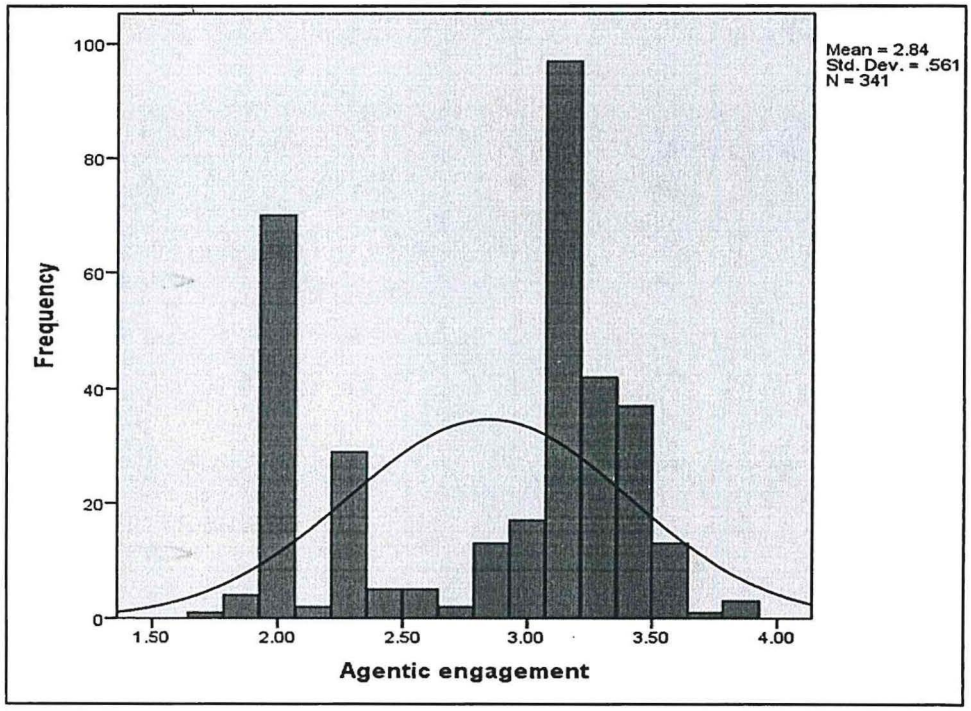


Figure 4.4 shows that the students rated their agentic engagement to be fair (mean = 2.84). The standard deviation (0.56) meant that the results were normally distributed. Therefore, results on agentic engagement were fit for correlation and regression analyses.

To find out whether the views presented by the students on agentic engagement agreed with those of teachers, the teachers were asked during interviews, to tell how they think about

agentic engagement of students in the school. The teachers gave responses which suggested that the agentic engagement of students was fair.

For example, T12 said;

> I have seen some students who were actively participating in discussions in the sessions I attended. Quite a good number of them were active participants during discussions while the rest occasionally chipped in with comments or inquiries.

T7 stated;

> There is only one boy in S2 who has been disturbing teachers seriously whenever he doesn't understand something. He is a regular visitor in the staff room seeking for help on issues he finds challenging. But others, I don't think so.

Further, T6 remarked; "In my class, some few students ask teachers questions during the lesson. The majority do not ask teachers' questions but they participate very well in answering the questions teachers ask them." These qualitative responses from teachers suggested that the agentic engagement of the students was fairly good. This finding was consistent with the descriptive statistics which revealed that the agentic engagement of students was fairly good.

4.2.5 Student Engagement. To test how overall students rated their student engagement, an average index was created for four aspects measuring the concept that are behaviourist engagement (BE1-10), cognitive engagement (CE1-9), affective engagement (AE1-9) and agentic engagement (AGE1-7 (see Appendix B). The summary results are presented in Table 4.10.

Table: 4.10

Summary Results for Student Engagement

	Descriptive		Statistic	Std. Error
Student engagement	Mean		2.51	0.01
	95% confidence interval for mean	Lower bound	2.49	
		Upper bound	2.53	
	5% trimmed mean		2.50	
	Median		2.49	
	Variance		0.04	
	Std. Deviation		0.20	
	Minimum		2.14	
	Maximum		3.20	
	Range		1.06	
	Interquartile range		0.27	
	Skewness		0.62	0.13
	Kurtosis		0.14	0.26

The results in Table 4.10 show average mean (2.51) close to the median (2.49) skew (0.62) which suggested that the results were normally distributed. The average mean also meant that students rated student engagement to be fair. The low standard deviation (0.20) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.5.

Figure 4.5

Histogram for Student Engagement

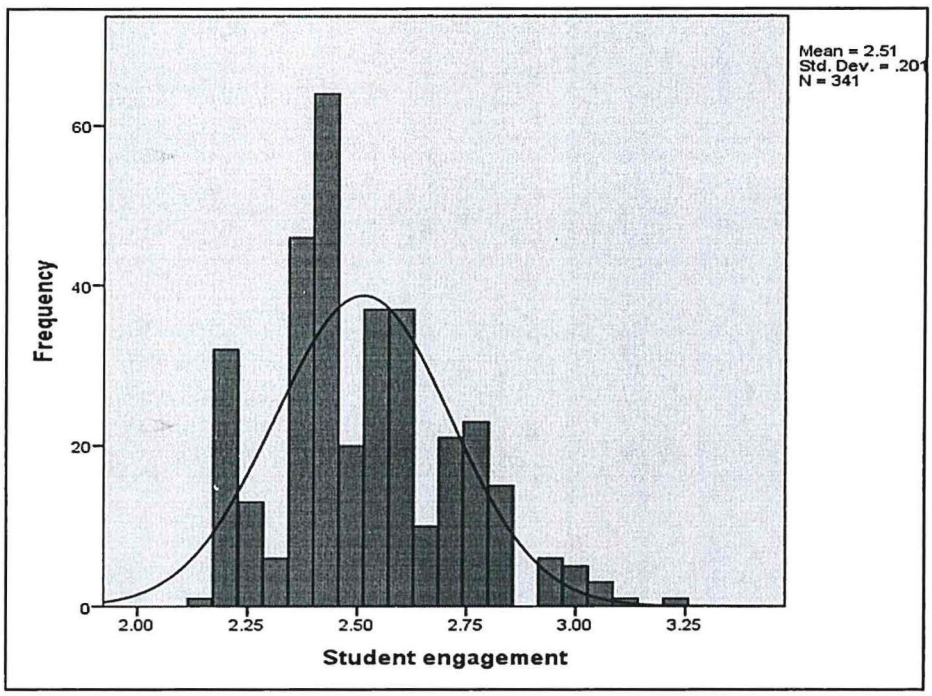
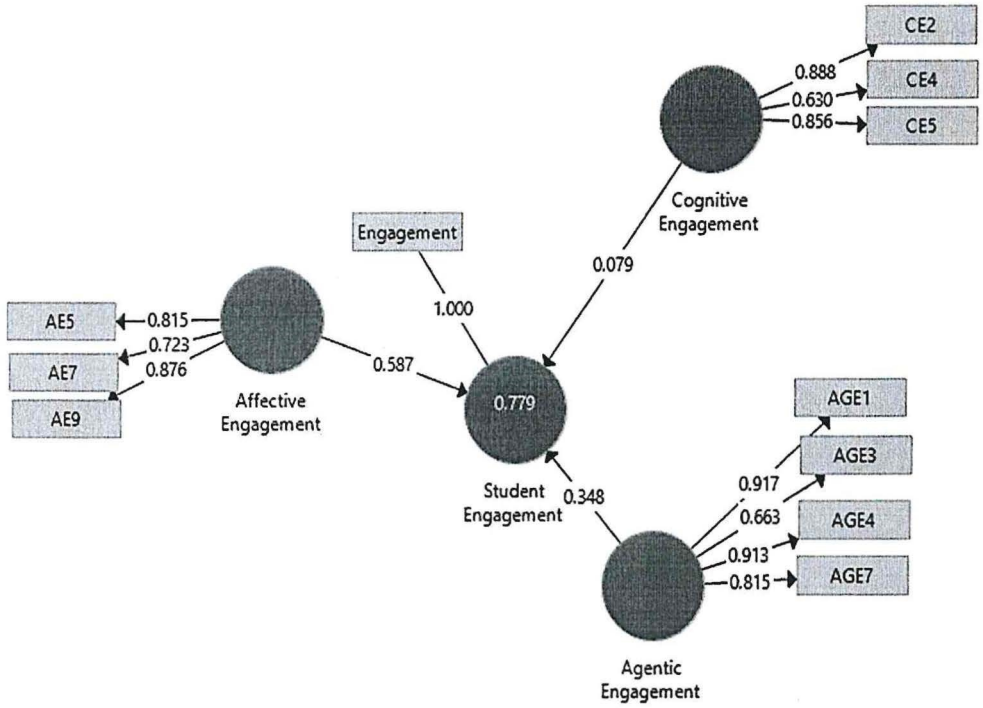


Figure 4.5 reveals mean (2.51) which implied that student engagement was fair. The low standard deviation (0.20) implied that the results were normally distributed. Therefore, results obtained could be subjected to linear correlation and regression.

Figure 4.6

Student Engagement Model



The structural model Figure 4.6 describes a concept of student engagement. The model shows that student engagement is a multi-dimensional concept that involves behaviourist, affective, cognitive and agentic engagements. The factor loadings obtained show that three out of nine of the indicators measuring affective and cognitive engagements construct loaded highly and four out seven indicators of agentic engagement construct loaded highly above the minimum validity value of (0.5) when using factor analysis as recommended by Hair Et al (2021). However, for behaviourist engagement all the items did not load and were removed. Therefore, the items retained for all the constructs in the model were valid measures of those constructs. Those items which were dropped were excluded from subsequent analyses.

4.3 Constructivist Teaching Approaches

Constructivist teaching approaches was studied as a construct in terms of active learning, invested effort, positive regard, teacher expectation, teacher accessibility and collaborative learning.

4.3.1 Active Learning. The construct of active learning was studied using eight items. In Table 4.8 are descriptive results on the same.

Table 4.11

Descriptive Results for Active Learning

Active learning	SD	D	U	A	SA	Mean
Teachers involve us in self-guided learning activities	26 (7.6%)	289 (84.4%)	7 (2.1%)	16 (4.7%)	3 (0.9%)	2.06
Teachers involve us in discussions while in class	12 (3.5%)	149 (43.7%)	7 (2.1%)	169 (49.6%)	4 (1.2%)	3.01
Teachers provide questions to answer at the end of every lesson	26 (7.6%)	225 (66.0%)	5 (1.5%)	83 (24.3%)	2 (0.6%)	2.44
Teachers allow us to consult one another in class as we learn	22 (6.5%)	150 (44.0%)	10 (2.9%)	156 (45.7%)	3 (0.9%)	2.91
Teachers avail us materials and sources to help us understand the material we learn	30 (8.8%)	241 (70.7%)	6 (1.8%)	60 (17.6%)	4 (1.2%)	2.32
We are given regular assignments by our teachers	28 (8.2%)	149 (43.7%)	10 (2.9%)	151 (44.3%)	3 (0.9%)	2.86
Sometimes teachers involve us in discussions	39 (11.4%)	142 (41.6%)	6 (1.8%)	150 (44.0%)	4 (1.2%)	2.82
Teachers make us to carry out research beyond the notes they give us	40 (11.7%)	242 (71.0%)	00 (0.0%)	59 (17.3%)	00 (0.0%)	2.23

The results from Table 4.11 on whether teachers involve students in self-guided learning activities indicate majority (92.0 %) of the students differed while (5.6%) concurred and (2.1%) were without decision. The mean (2.06) below average meant that majority of teachers do not involve students in self-guided learning activities. Regarding whether teachers involve us in discussions while in class, average (50.8%) of students concurred while (47.2%) differed and (2.1%) were without decision. The mean (3.01) implies that teachers fairly involve students in discussions while in class. About whether teachers provide questions to answer at the end of every lesson, larger percentage (73.6%) of students differed, while (24.9%) concurred and (1.5%) was without decision. The low mean (2.44) meant that most teachers do not provide questions to answer at the end of every lesson. With respect to whether teachers allow us to consult one another in class as we learn, average (50.5%) of students differed, (48.6%) concurred and (2.9%) were without decision. The mean (2.91) which is average meant that almost half of teachers do not allow students to consult one another in class as we learn.

As concerns whether teachers avail students' materials and sources to help them understand the material they learn, greater percentage (79.5%) of students differed, (18.8%) concurred and (1.8%) were without decision. The low mean (2.32) indicates that majority of teachers do not avail students materials and sources to help them understand the material they learn. With regards to whether students were given regular assignments by their teachers, moderate percentage (51.9%) of students differed, (45.2%) concurred and (2.9%) were without decision. The mean (2.86) which is average showed that almost half of students were not given regular assignments by teachers. On whether sometimes teachers involve students in discussions, average percentage (53.0%) of students differed, (45.2%) concurred and (1.8%) were without decision. The mean (2.82) average meant that teachers fairly involved students in discussions.

About whether teachers make students to carry out research beyond the notes they give, greater percentage (82.7%) of students differed, and (17.3%) concurred. The low mean (2.23) indicates that majority of teachers do not make students to carry out research beyond the notes they give.

To find out how the students rated active learning, an average index was calculated for the eight items concept. The summary results are presented in Table 4.12.

Table 4.12

Summary Results for Active Learning

	Descriptive		**Statistic**	**Std. Error**
Active learning	Mean		2.58	0.031
	95% confidence interval for mean	Lower bound	2.52	
		Upper bound	2.64	
	5% trimmed mean		2.58	
	Median		2.50	
	Variance		.32	
	Std. Deviation		.57	
	Minimum		1.13	
	Maximum		3.75	
	Range		2.63	
	Interquartile range		1.00	
	Skewness		0.061	0.13
	Kurtosis		-1.00	0.26

The results in Table 4.12 show average mean (2.59) close to the median (2.50) and a positive skew (0.61) which suggested that the results were normally distributed. The average mean also meant that students rated active learning to be fairly good. The low standard deviation (0.20) also

indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.7.

Figure 4.7

Histogram for Active Learning

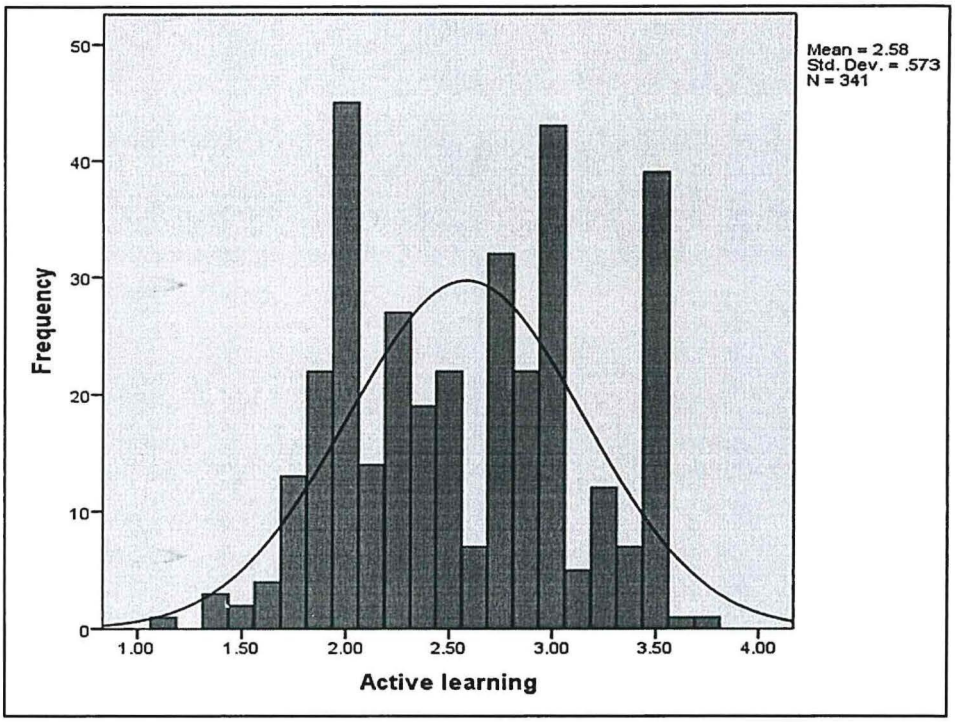


Figure 4.7 shows that the students rated active learning to be fairly good (mean = 2.58). The standard deviation (0.57) meant that the results were normally distributed. Therefore, results on active learning were fit for correlation and regression analyses.

To find out whether the views presented by the students on active learning agreed with those of teachers, the teachers were asked during interviews to give their views about active learning of students in the school. The teachers gave responses which suggested that the active learning of students was fairly good. For example, T6 remarked;

> Students are being made to carry out some research but on a limited scale. We do not have enough resources especially books for students in the library. The few books we have there are mostly used by the teachers. As a result, some limited work is given to students to research on though not as regular as it's supposed to be as required by the new curriculum."

T10 stated;

> Some teachers give students assignments on some practical activities in specific areas of interest. The challenge is the assignments may not be regularly given by teachers due to work pressure on the teachers and also the students don't have time to do the assignments since they are busy in class the whole day.

T11 said;

> The lower classes especially senior one and two have a considerable time for self-study where they are involved in searching for information on the content for study. The other classes do some self-study during prep and free time where they can go to the library for self-study.

These responses from teachers suggested that active learning was fair. This finding was consistent with the descriptive statistics which indicated that active learning of students was fairly good.

4.3.2 Collaborative Learning. The construct of collaborative learning was studied using eight items. In Table 4.13 are descriptive results on the same.

Table 4.13

Descriptive Results for Collaborative Learning

Collaborative learning	SD	D	U	A	SA	Mean
We are helped by teachers to form study groups	9 (.6%)	310 (90.9%)	3 (0.9%)	00 (0.0%)	19 (5.6%)	2.15
Teachers make us exchange ideas in study groups	10 (2.9%)	67 (19.6%)	3 (0.9%)	244 (71.6%)	17 (5.0%)	3.56
Teachers make sure that groups remain focused on learning	8 (2.3%)	247 (72.4%)	5 (1.5%)	58 (17.0%)	23 (6.7%)	2.53
Each study group is required to present to the whole class	6 (1.8%)	44 (12.9%)	6 (1.8%)	263 (77.1%)	22 (6.5%)	3.74
Teachers tell us the benefits of working in groups	5 (1.5%)	30 (8.8%)	4 (1.2%)	282 (82.7%)	20 (5.9%)	3.83
Teachers give groups opportunities to present and discuss	4 (1.2%)	109 (32.0%)	3 (0.9%)	198 (58.1%)	27 (7.9%)	3.40
Learning in groups is effective because we learn from one another	6 (1.8%)	85 (24.9%)	8 (2.3%)	221 (64.8%)	21 (6.2%)	3.49
in study groups, each member has the opportunity to contribute during discussions	8 (2.3%)	229 (67.2%)	5 (1.5%)	74 (21.7%)	25 (7.3%)	2.65

The results in Table 4.13 on whether we are helped by teachers to form study groups, majority percentage (92.4%) of students differed, while (5.6%) concurred and (0.9%) were without decision. The mean (2.15) is very low which meant that majority of students were not being helped by teachers to form study groups. Regarding whether teachers make us exchange ideas in study groups, greater percentage (76.6%) concurred, while (22.4%) differed and (0.9%) were without decision. The high mean (3.56) meant that majority of teachers made students exchange ideas in study groups. As to whether teachers make sure that groups remain focused on learning, the greater percentage (74.6%) differed, while (23.7%) concurred and (1.5%) were without decision. The mean (2.53) implies that majority of teachers do not make sure that groups remain focused on learning. About whether each study group is required to present to the whole class, the majority percentage (83.6%) concurred while (14.7%) differed and (1.8%) were without decision. The high mean (3.74) meant that majority of study groups were required to present to the whole class. With respect to whether teachers tell us the benefits of working in groups, larger percentage (87.5%) concurred while (10.3%) differed and (1.2%) were without decision. The high mean (3.83) reveals that majority of teachers tell students benefits of working in groups.

With regards to whether teachers give groups opportunities to present and discuss, moderate percentage (66%) of students concurred, while (33.2%) differed and (0.9%) were without decision. The mean (3.40) reflects that fair number of teachers give groups opportunities to present and discuss. Concerning whether learning in groups is effective because we learn from one another, greater percentage (73.0%) of students concurred while (26.7%) differed and (2.3%) were without decision. The mean (3.49) informs that learning in groups was largely effective because students learn from one another. As regards whether in study groups, each member has the opportunity to contribute during discussions, moderate percentage (64.5%) of students

differed, while (29.0%) concurred and (1.5%) was without decision. The moderate mean (2.65%) implies that in study groups, fairly good number of members have opportunity to contribute during discussions. To find out how the students rated collaborative learning, an average index was calculated for the eight items concept. The summary results are presented in Table 4.14.

Table 4.14

Summary Results for Collaborative Learning

	Descriptive		**Statistic**	**Std. Error**
Collaborative learning	Mean		3.17	0.031
	95% confidence interval for mean	Lower bound	3.11	
		Upper bound	3.23	
	5% trimmed mean		3.14	
	Median		3.25	
	Variance		0.32	
	Std. Deviation		0.57	
	Minimum		1.00	
	Maximum		5.00	
	Range		4.00	
	Interquartile range		0.25	
	Skewness		0.66	0.13
	Kurtosis		5.25	0.26

The results in Table 4.14 show average mean (3.17) close to the median (3.25) with a positive skew (0.66) which suggested that the results were normally distributed. The average mean also meant that students rated collaborative learning to be fairly good. The low standard deviation

(0.57) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.12

Figure 4.8

Histogram for Collaborative Learning

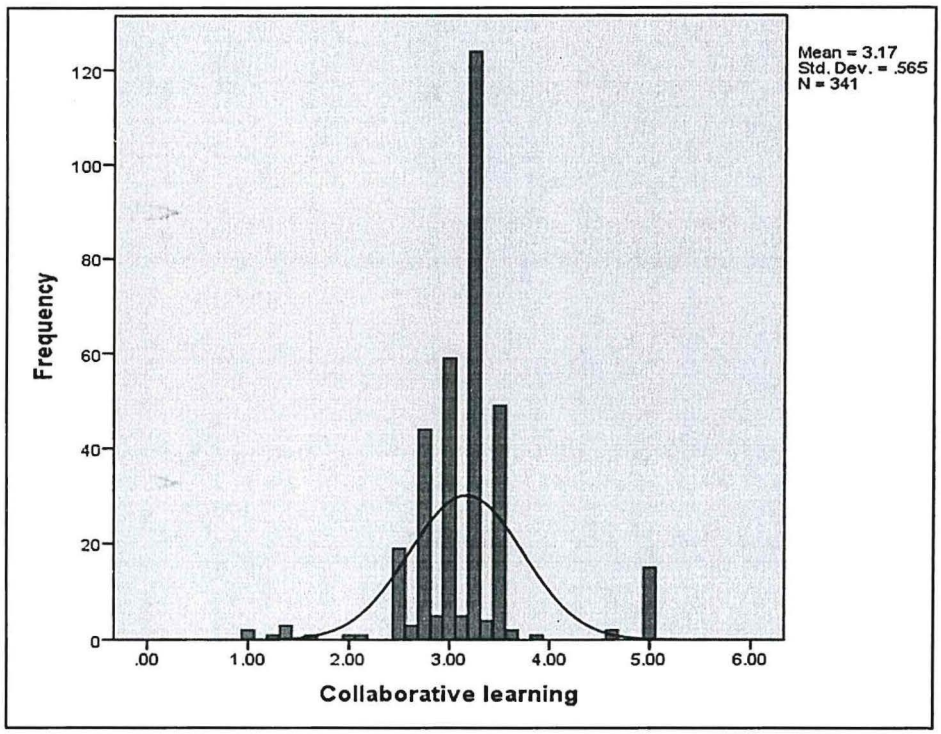


Figure 4.8 shows that the students rated collaborative learning to be fairly good (mean = 3.17). The standard deviation (0.57) meant that the results were normally distributed. Therefore, results on collaborative learning were fit for correlation and regression analyses. To find out whether the views of students on collaborative learning agreed with those of teachers, the teachers were asked during interviews to give their responses about collaborative learning. The teachers' responses suggested that collaborative learning was fair. For example, T5 said;

> We have been giving the students work to do in small groups. This has not been regularly done due to some challenges. Students are made to work in groups and each group presents their work to the whole class. Other students and the teacher then express their opinions about the presentations.

T7 stated;

> We have been emphasising the benefit of working in groups to the students. At times the students do not understand well what is taught by teachers. Their fellow students step in to help them understand. Sometimes they even understand much better when explained to by fellow students because they explain at their level of understanding.

The responses from teachers suggested that collaborative learning was fairly good. This finding was consistent with the descriptive statistics which showed that collaborative learning was fair.

4.3.3 Teacher Support. The construct of teacher support was studied using eight items. In Table 4.15 are descriptive results on the same.

Table 4.15

Descriptive Results for Teacher Support

Teacher Support	SD	D	U	A	SA	Mean
Teachers put in effort to ensure that we perform better	49 (14.4%)	175 (51.3%)	1 (0.3%)	116 (34.0%)	0 (0.0%)	2.54
Teachers spare time to help us to get better grades	71 (20.8%)	184 (54.0%)	11 (3.2%)	75 (22.0%)	0 (0.0%)	2.26
Teachers are helpful and ready to help us whenever we need academic support	67 (19.6%)	212 (62.2%)	6 (1.8%)	53 (15.5%)	3 (0.9%)	2.16
Teachers challenge me to think about my future goals	47 (13.8%)	223 (65.4%)	6 (1.8%)	61 (17.9%)	4 (1.2%)	2.27
There are teachers who believe in me and know that I am a hard worker	26 (7.6%)	130 (38.1%)	8 (2.3%)	174 (51.1%)	3 (0.9%)	2.59
Most teachers in this school care about what happens to students	21 (6.2%)	212 (62.2%)	10 (2.9%)	94 (27.6%)	4 (1.2%)	2.55
Some teachers teach extra lessons to help students catch-up	44 (12.9%)	234 (68.6%)	6 (1.8%)	53 (15.5%)	4 (1.2%)	2.23
Teachers put in effort to ensure that we succeed	43 (12.6%)	233 (68.3%)	6 (1.8%)	50 (14.7%)	9 (2.6%)	2.26

The results in Table 4.15 on whether teachers put in effort to ensure that we perform better, moderate percentage (65.7%) of students differed, while (34.0%) concurred and (0.3%) were without decision. The mean (2.54) meant that moderate number of teachers put in effort to ensure that we perform better. Regarding whether teachers spare time to help us to get better grades, greater percentage (74.8%) differed, while (22.0%) concurred and (3.2%) were without decision. The mean (2.26) meant that majority of teachers did not spare time to help us to get better grades. As to whether teachers are helpful and ready to help us whenever we need academic support, the greater percentage (81.8%) differed, while (16.4%) concurred and (1.8%) were without decision. The mean (2.16) implies that majority of teachers were not helpful and ready to help us whenever we need academic support.

About whether teachers challenge me to think about my future goals, the majority (79.1%) differed while (19.1%) concurred and (1.8%) were without decision. The mean (2.27) meant that majority of teachers did not challenge me to think about my future goals. With respect to whether there are teachers who believe in me and know that I am a hard worker, larger percentage (52.0%) concurred while (45.7%) differed and (2.3%) were without decision. The mean (2.59) reveals that moderate number of teachers believe in me and know that I am a hard worker. With regards to whether most teachers in this school care about what happens to students, moderate percentage (68.3%) of students differed, while (28.8%) concurred and (2.9%) were without decision. The mean (2.55) reflects that most teachers in this school did not care about what happens to students.

Concerning whether some teachers teach extra lessons to help students catch-up, greater percentage (81.5%) of students differed while (16.7%) concurred and (1.8%) were without decision. The mean (2.23) informs that majority of teachers did not teach extra lessons to help

students catch-up. As regards whether teachers put in effort to ensure that we succeed, larger percentage (80.9%) of students differed, while (17.3%) concurred and (1.8%) was without decision. The mean (2.26) implies that majority of teachers did not put in effort to ensure that we succeed. To find out how the students rated teacher support, an average index was calculated for the eight items concept. The summary results are presented in Table 4.16.

Table 4.16

Summary Results for Teacher Support

	Descriptives		Statistic	Std. Error
Teacher Support	Mean		2.33	0.02
	95% Confidence	Lower Bound	2.28	
	Interval for Mean	Upper Bound	2.38	
	5% Trimmed Mean		2.34	
	Median		2.36	
	Variance		0.21	
	Std. Deviation		0.46	
	Minimum		1.00	
	Maximum		3.45	
	Range		2.45	
	Interquartile Range		0.55	
	Skewness		-0.45	0.13
	Kurtosis		0.76	0.26

The results in Table 4.16 show a mean = 2.33) close to the median (2.36) with a positive skew (-0.45) which suggested that the results were normally distributed. The mean also meant that students rated teacher support to be low. The low standard deviation (0.46) also indicated normal

distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.9.

Figure 4.9

Histogram for Teacher Support

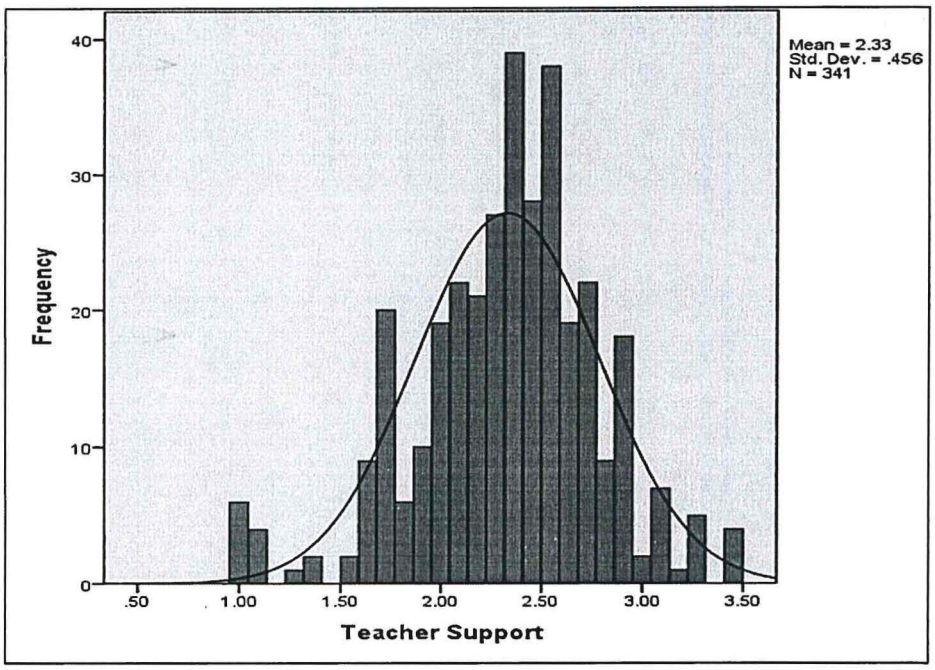


Figure 4.9 shows that the students rated teacher support to be low (mean = 2.33). The standard deviation (0.46) meant that the results were normally distributed. Therefore, results on teacher support were fit for correlation and regression analyses. To find out whether the views students presented on teacher support were in agreement with those of teachers, the teachers were asked during interviews to give their responses about teacher support in the school. The teachers' responses suggested that teacher support was low. For example, T15 said;

> Teachers are willing and ready to help students whenever they need us. The challenge is most teachers come to school on days they have lessons. When we are available, we are in class teaching and after teaching, we leave the school to go and make ends meet. This makes it difficult to help the students as they would wish to have.

For example, T3 said;

> It is true most of us don't teach extra lessons. We only teach our lessons which appear on the time table. If some of us don't even teach the few lessons we have on the time table, how then can we teach extra lessons?

T14 stated;

> I do not know what is wrong with our students. We try our best to teach them but they are just not improving. The students keep blaming us that we are not encouraging them to do well. For me, I don't expect our students to do well.

These responses from teachers suggested that teacher support was low. This finding was consistent with the descriptive statistics which indicated that teacher support was low. The responses mean that students could not find teachers when they need them, teachers do not believe their students can do well and they also don't teach extra lessons. This has the ability to affect the effort teachers make to help the learners. It is therefore most likely that many students end up not receiving the support they need from teachers.

4.3.4 Contextual Learning. The construct of contextual learning was studied using eight items. In Table 4.17 are descriptive results on the same.

Table 4.17

Descriptive Results for Contextual Learning

Contextual learning	SD	D	U	A	SA	Mean
My teachers ensure self-directed learning	6 (1.8%)	292 (85.6%)	5 (1.5%)	10 (2.9%)	28 (8.2%)	2.30
My teachers stimulate thinking, analysis and reasoning	3 (0.9%)	288 (84.5%)	7 (2.1%)	10 (2.9%)	33 (9.7%)	2.36
My teachers activate my prior knowledge	4 (1.2%)	285 (83.6%)	5 (1.5%)	13 (3.8%)	34 (10.0%)	2.38
My teachers teach from the known to the unknown	6 (1.8%)	283 (83.0%)	9 (2.6%)	10 (2.9%)	33 (9.7%)	2.36
The knowledge taught in class is realistic	8 (2.3%)	284 (83.3%)	7 (2.1%)	11 (3.2%)	31 (9.1%)	2.33
My teachers are equal to my level of knowledge helping me to understand	6 (1.8%)	287 (84.2%)	3 (0.9%)	10 (2.9%)	35 (10.3%)	2.36
The knowledge taught in class is relevant to my needs	5 (1.5%)	282 (82.7%)	8 (2.3%)	11 (3.2%)	35 (10.3%)	2.38
My teachers arouse my curiosity during learning	9 (2.6%)	281 (82.4%)	5 (1.5%)	11 (3.2%)	35 (10.3%)	2.36

The results in Table 4.17 on whether my teachers ensure self-directed learning, majority percentage (87.4%) of students differed, while (11.1%) concurred and (1.5%) were without decision. The mean (2.30) is low which meant that majority of students concurred that teachers ensure self-directed learning. Regarding whether my teachers stimulate thinking, analysis and reasoning, greater percentage (85.4%) differed, while (12.6%) concurred and (2.1%) were

without decision. The mean (2.36) meant that most of the students differed that teachers stimulate thinking, analysis and reasoning. As to whether my teachers activate my prior knowledge, the greater percentage (84.8%) differed, while (13.8%) concurred and (1.5%) were without decision. The mean (2.38) implies that majority of students disagreed that teachers activate students prior knowledge.

About whether my teachers teach from the known to the unknown, the majority percentage (84.8%) differed while (12.6%) concurred and (2.6%) were without decision. The mean (2.36) meant that most of the students differed that teachers teach from known to unknown. With respect to whether the knowledge taught in class is realistic, larger percentage (85.6%) differed while (12.3%) concurred and (2.1%) were without decision. The mean (2.33) reveals that large number of students differed that the knowledge taught in class is realistic. With regards to whether my teachers are equal to my level of knowledge helping me to understand, moderate percentage (86.0%) of students differed, while (13.2%) concurred and (0.9%) were without decision. The mean (2.36) reflects that majority of students disagreed that teachers were equal to students' level of knowledge helping them to understand.

Concerning whether the knowledge taught in class is relevant to my needs, greater percentage (84.2%) of students differed while (13.5%) concurred and (2.3%) were without decision. The mean (2.38) informs that large number of students differed that the knowledge taught in class is relevant to their needs. As regards whether my teachers arouse my curiosity during learning, moderate percentage (85.0%) of students differed, while (13.5%) concurred and (1.5%) was without decision. The moderate mean (2.36) implies that most of the students differed that teachers arouse students' curiosity during learning. To find out how the students

rated contextual learning, an average index was calculated for the eight items concept. The summary results are presented in Table 4.18.

Table 4.18

Summary Results for Contextual Learning

	Descriptive		**Statistic**	**Std. Error**
Behaviourist engagement	Mean		Mean	0.04
	95% Confidence Interval for Mean	Lower Bound		
		Upper Bound		
	5% Trimmed Mean		2.25	
	Median		2.00	
	Variance		0.53	
	Std. Deviation		0.73	
	Minimum		1.50	
	Maximum		5.00	
	Range		3.50	
	Interquartile Range		0.38	
	Skewness		2.43	0.13
	Kurtosis		5.34	0.26

The results in Table 4.18 show a mean = 2.35 and median = 2.00 with a positive skew = 2.43 which suggested that the results were normally distributed. The mean also meant that students rated contextual learning to be low. The low standard deviation (0.73) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.10

Figure 4.10:

Histogram for Contextual Learning

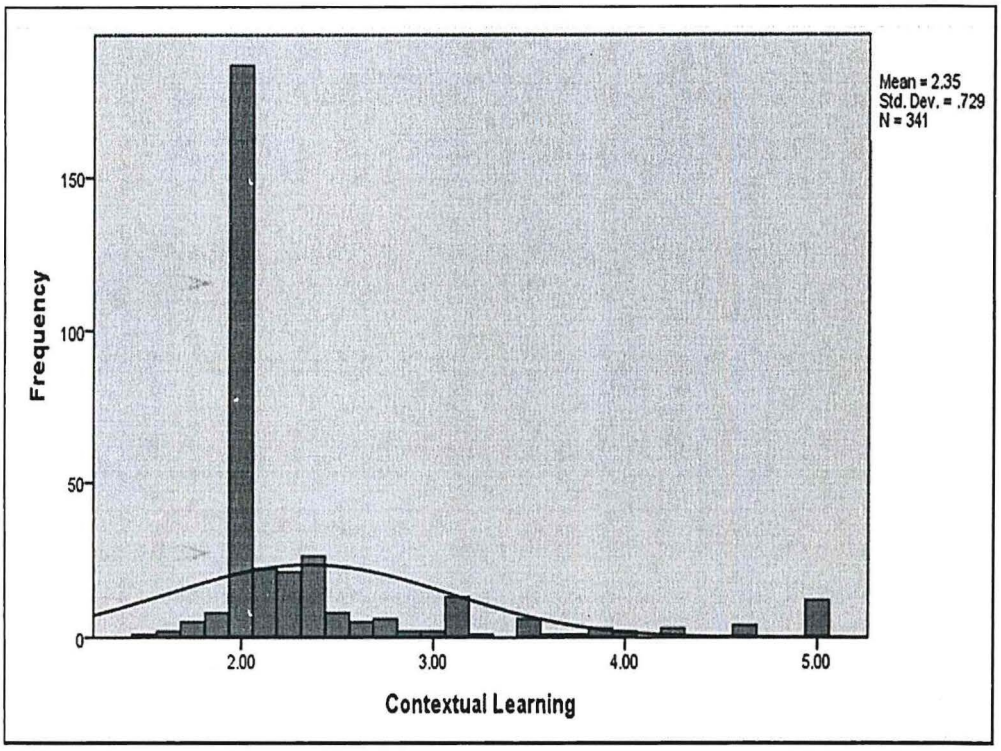


Figure 4.10 shows that the students rated contextual learning to be low (mean = 2.35). The standard deviation (0.73) meant that the results were normally distributed. Therefore, results on contextual learning were fit for correlation and regression analyses. To find out whether the views of students on contextual learning agreed with those of teachers, the teachers were asked during interviews to give their responses about contextual learning. The teachers' responses suggested that contextual learning was low.

For example, T2 said;

> It is sometimes challenging to always teach from known to unknown because some of the concepts are new to students. It would be best to pick examples from students' daily life experiences. The challenge is most of us get examples from books which are sometimes written by foreigners.

T7 stated;

> We have a well-stocked library with very good books that we use for teaching these students. The library is always open for our students to use but you can't find them in the library. They don't want to study on their own yet we are always busy and tired after lessons.

These responses from teachers suggested that contextual learning was low. This finding was consistent with the descriptive statistics which showed that contextual learning was low. These responses from teachers mean that teaching is not related to real experiences of the students. It is therefore most likely that students find learning difficult because of the abstract nature of teaching.

4.3.5 Constructivist Teaching Approaches. To test how overall students rated their constructivist teaching approaches, an average index was created for six aspects measuring the concept that are; active learning (AL1-8), invested effort (INV1-8), positive regard (PR1-7), teacher expectation (EXP1-11), teacher accessibility (ACC1-9) and collaborative learning (CL1-8) (see Appendix B). The summary results are presented in Table 4.23.

Table 4.19

Summary Results for Constructivist Teaching Approaches

	Descriptive		Statistic	Std. Error
Constructivist	Mean		2.50	0.015
teaching approaches	95% confidence	Lower bound	2.47	
	interval for mean	Upper bound	2.53	
	5% trimmed mean		2.51	
	Median		2.53	
	Variance		0.072	
	Std. Deviation		0.27	
	Minimum		1.45	
	Maximum		3.31	
	Range		1.86	
	Interquartile range		0.25	
	Skewness		-0.72	0.13
	Kurtosis		2.88	0.26

The results in Table 4.19 show average mean (2.50) close to the median (2.53). Despite the negative skew (-0.72), the results were normally distributed. The average mean also meant that students rated their constructivist teaching approaches to be fair. The low standard deviation (0.27) also indicated normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.11

Figure 4.11

Histogram for Constructivist Teaching Approaches

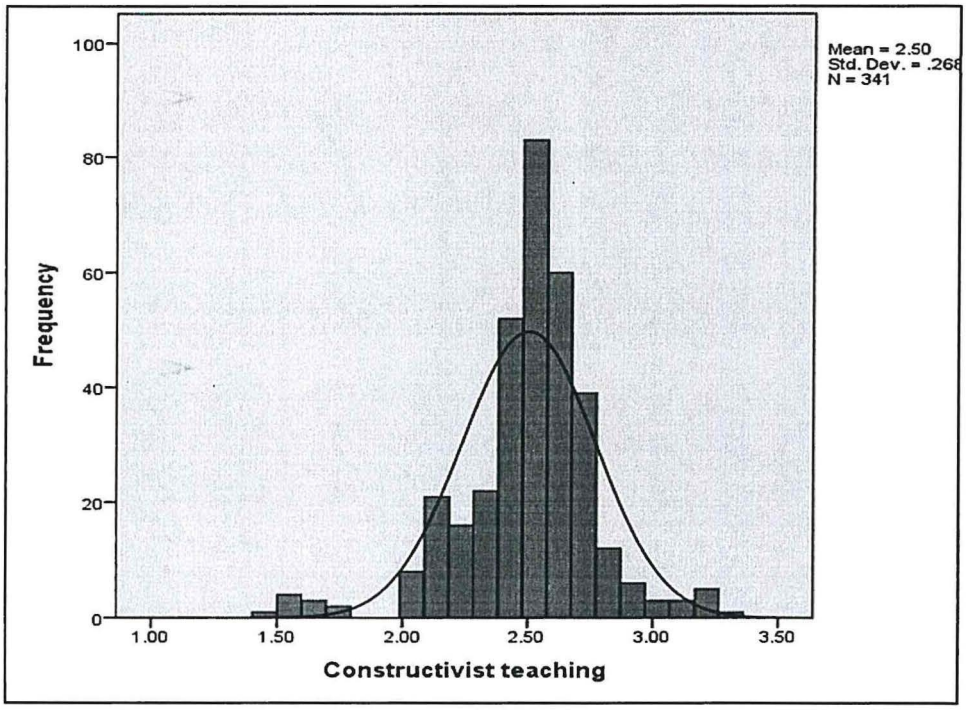
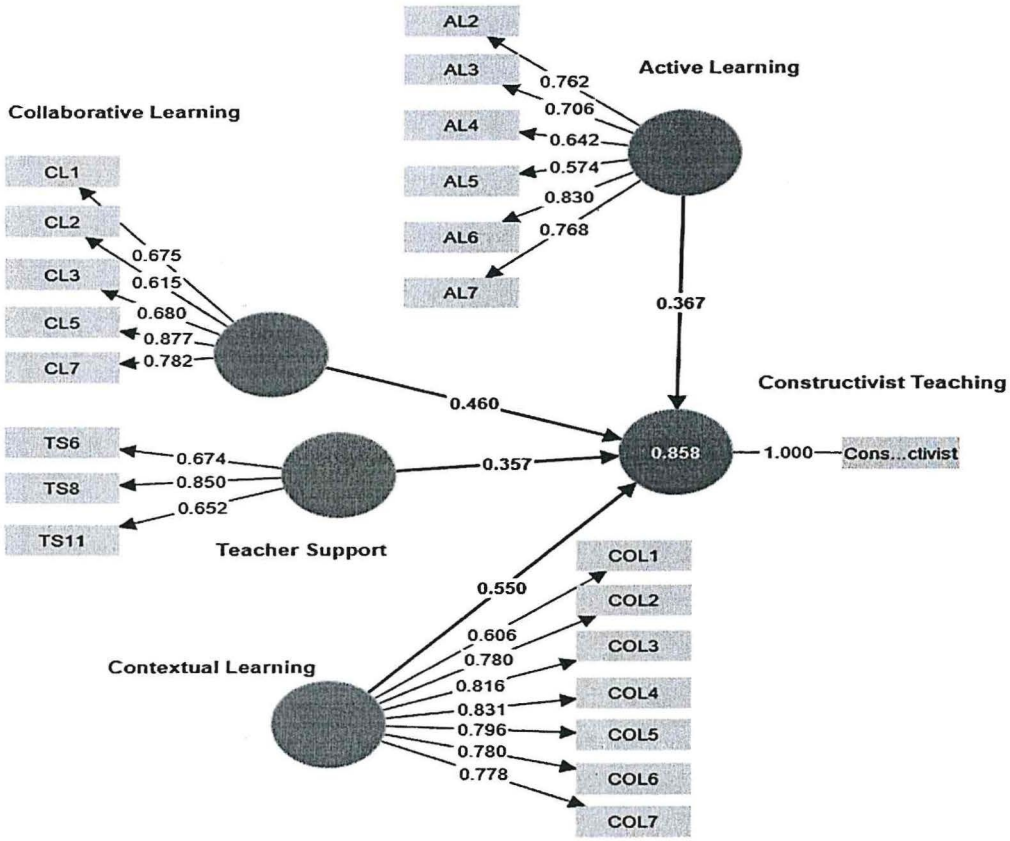


Figure 4.11 reveals mean (2.50) which implied that constructivist teaching approaches were fairly used by teachers. The low standard deviation (0.20) implied that the results were normally distributed. Therefore, results obtained could be subjected to linear correlation and regression.

Figure 4.12

Constructivist Teaching Model



The structural model Figure 4.12 describes the concept of constructivist teaching approaches. The model shows that constructivist teaching is a multi-dimensional concept that involves active learning, collaborative learning, teacher support and contextual learning. The model shows that for active teaching seven out of eight indictors were retained, for collaborative learning five out of eight indicators were retained, four teacher support three out of eleven indicators were retained and for contextual learning seven out of eight indicators were retained. The factors retained loaded highly above the minimum validity value (0.5) when using factor analysis as

recommended by Hair Et al. (2021).

Figure 4.13

Constructivist Teaching and Student Engagement

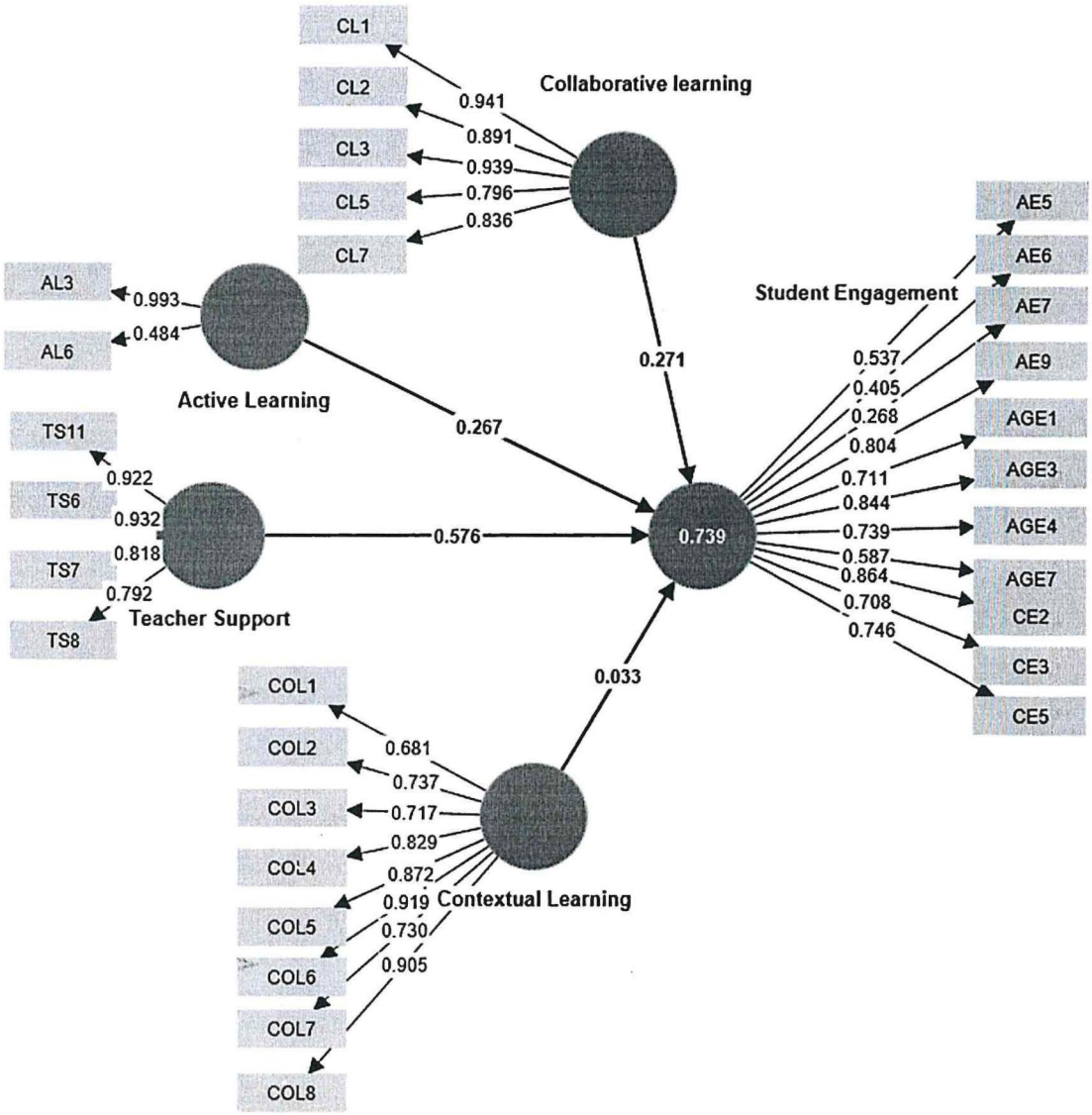


Table 4.20

Structural Equation Path Model Predictions for Constructivist Teaching and Student Engagement

Direct Effect	B	Mean	STD	T	P
Active Learning → Student Engagement	0.267	0.270	0.029	9.188	0.000
Collaborative learning→Student Engagement	0.271	0.275	0.040	6.828	0.000
Teacher Support → Student Engagement	0.576	0.570	0.031	18.680	0.000
Contextual Learning→ Student Engagement	0.033	0.036	0.029	1.129	0.259
R2 = 0.739					
Adjusted R2 = 0.736					

The results in Table 4.20 and Figure 4.17 show the four hypotheses to the effect that active learning positively relates to student engagement (H1.1), collaborative learning positively relates to student engagement (H1.2), teacher support relates to student engagement (H1.3), and contextual learning relate to student engagement (H1.4) were tested. The results revealed that active (β= 0.267, t = 9.188, p = 0.000), collaborative learning (β = 0.271, t = 6.828, p = 0.000), and teacher support (β = 0.576, t = 18.680, p = 0.000) positively and significantly predicted student engagement. However, contextual learning (β = 0.033, t = 1.129, p = 0.259) positively but insignificantly predicted student engagement. The path model shows that the four constructivist teaching approaches contributed 73.9% (R^2 = 0.739) on student engagement.

The adjusted r^2 (0.739) suggested that the significant factors namely active learning, collaborative learning, and teacher support contributed 73.6% (Adjusted R^2 0.736%) to student engagement. This means that coefficient of determination suggested that (26.1%) of variation in student engagement was accounted for by other factors not considered for under this model.

Further, results implied that if secondary schools emphasise constructivist teaching approaches, students are likely to be more engaged in their studies. Since the relationship between three constructivist teaching approaches (active learning, collaborative learning, and teacher support) and student engagement was significant, the hypotheses were accepted. However, for contextual learning the hypothesis was rejected.

4.4 Behaviourist Teaching Approaches

Behaviourist teaching approaches was studied as a construct in terms of immediate feedback, continuous practice and reinforcement.

4.4.1 Immediate Feedback. The construct of immediate feedback was studied using eight items. Below in table 4.21 are descriptive results on the same.

Table 4.21

Descriptive Results for Immediate Feedback

Immediate feedback	SD	D	U	A	SA	Mean
The teachers immediately make us aware of our strengths	11 (3.2%)	288 (84.5%)	6 (1.8%)	32 (9.4%)	4 (1.2%)	2.21
The teachers provide us with immediate concrete feedback on activities we have performed	11 (3.2%)	291 (85.3%)	5 (1.5%)	30 (8.8%)	4 (1.2%)	2.20
The teachers immediately alert us about gaps in our learning	7 (2.1%)	296 (86.8%)	5 (1.5%)	30 (8.8%)	3 (0.9%)	2.20
The teachers are supportive when we experience difficulties in a task	3 (0.9%)	281 (82.4%)	5 (1.5%)	41 (12.0%)	11 (3.0%)	2.34
The teachers immediately alert us about gaps in our knowledge	7 (2.1%)	26 (86.8%)	6 (1.8%)	29 (8.5%)	3 (0.9%)	2.19
The teachers provide us with immediate constructive feedback on activities we have performed	8 (2.3%)	294 (86.2%)	4 (1.2%)	31 (9.1%)	4 (1.2%)	2.21
The teachers immediately make us aware of our weaknesses	6 (1.8%)	295 (86.5%)	6 (1.8%)	31 (9.1%)	3 (0.9%)	2.21
The teachers immediately correct us to demonstrate how correctly different activities are performed	4 (1.2%)	230 (67.4%)	8 (2.3%)	95 (27.9%)	4 (1.2%)	2.60

The results in Table 4.21 concerning whether teachers immediately make us aware of our strengths, majority (87.6%) of students differed, while (10.6%) concurred and (1.8%) were without decision. The low mean (2.21) meant that majority of teachers don't immediately make

students aware of their strengths. Regarding whether teachers provide us with immediate concrete feedback on activities we have performed, larger percentage 88.4% of students differed, while (10.0%) concurred and (1.5%) were without decision. The mean (2.20) implies that majority of teachers don't provide students with immediate concrete feedback on activities they have performed. On whether teachers immediately alert us about gaps in our learning, larger percentage (88.8%) of students differed, while (9.7%) concurred and (1.5%) were without decision. The low mean (2.20) meant that majority of teachers don't immediately alert us about gaps in our learning.

As concerns whether teachers are supportive when we experience difficulties in a task, majority percentage (83.2%) of students differed, while (15.0%) concurred and (1.5%) were without decision. The low mean (2.34) reveals that larger percentage of teachers was not supportive when students experience difficulties in a task. With respect to whether teachers immediately alert us about gaps in our knowledge, larger percentage (88.8%) of students differed, while (9.4%) concurred and (1.8%) was without decision. The low mean (2.19) informs that teachers don't immediately alert us about gaps in our knowledge. About whether teachers provide us with immediate constructive feedback on activities we have performed, majority (88.4%) of students differed, while (10.3%) concurred and (1.2%) were without decision. The low mean (2.21) indicates that teachers don't provide students with immediate constructive feedback on activities we have performed.

As regards whether teachers immediately make us aware of our weaknesses, larger percentage (88.3%) of students differed, while (10.0%) concurred and (1.8%) was without decision. The low mean (2.21) implies that teachers don't immediately make students aware of their weaknesses. With regards to whether teachers immediately correct us to demonstrate how

correctly different activities are performed, moderate percentage (68.5%) of students differed, while (29.1%) concurred and (2.3%) were without decision. The average mean (2.60) reveals that fairly good number of teachers do not immediately correct students to demonstrate how different activities are performed. To find out how the students rated immediate feedback, an average index was calculated for the eight items concept. The summary results are presented in Table 4.22.

Table 4.22 Summary Results for Immediate Feedback

	Descriptive		**Statistic**	**Std. Error**
Immediate feedback	Mean		2.27	0.031
	95% confidence interval for mean	Lower bound	2.21	
		Upper bound	2.33	
	5% trimmed mean		2.20	
	Median		2.00	
	Variance		0.33	
	Std. Deviation		0.57	
	Minimum		1.13	
	Maximum		4.00	
	Range		2.88	
	Interquartile range		.25	
	Skewness		2.20	0.13
	Kurtosis		3.92	0.26

The results in Table 4.25 show low mean (2.27) close to the median = 2.00 with a positive skew (2.12) which suggested that the results were normally distributed. The low mean also meant that students rated immediate feedback to be low. The low standard deviation (0.57) also indicated

normal distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.14.

Figure 4.14

Histogram for Immediate Feedback

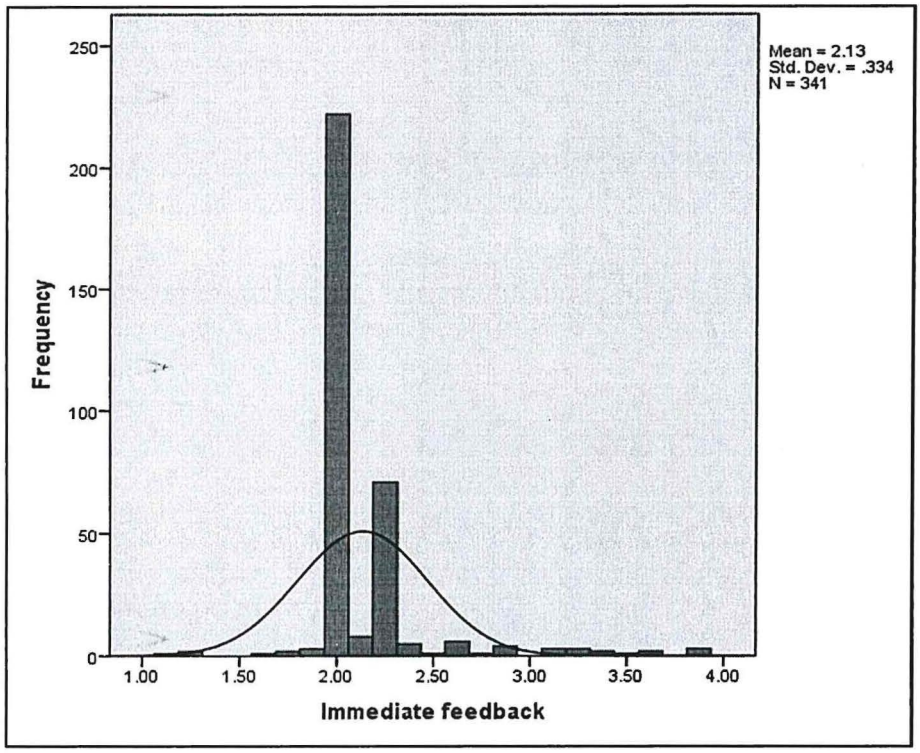


Figure 4.14 shows that the students rated immediate feedback to be low (mean = 2.27). The standard deviation (0.57) meant that the results were normally distributed. Therefore, results on immediate feedback were fit for correlation and regression analyses.

To find out whether the views of students on immediate feedback agreed with those of teachers, the teachers were asked during interviews to give their responses about immediate feedback. The teachers' responses suggested that immediate feedback was low. For example T9 stated;

> Teachers mark students work and do corrections with the students especially for tests and examinations. This is one of the ways of informing the students about their strengths and weaknesses. For sure, this may not be enough for students who need more attention due to the nature of the challenges they face.

T7 stated;

> When students come to us for support over difficult task or assignment, we refer them to the library. This is because some of them bring to us what is given to them as an assignment by our colleagues. Unfortunately some of us don't follow up on the assignments we give and many students end up without help.

The above responses from teachers suggested that immediate feedback was low. This finding was consistent with the descriptive statistics which showed that immediate feedback was low. This means that teachers were not providing adequate feedback to students. Students who do not receive adequate feedback tend to leave challenging aspects where they need teachers help unresolved. This has the potential to affect their learning and therefore needs to be addressed.

4.4.2 Continuous Practice. The construct of continuous practice was studied using eight items. In Table 4.23 are descriptive results on the same.

Table 4.23

Descriptive Results for Continuous Practice

Continuous practice	SD	D	U	A	SA	Mean
I am encouraged to revise continuously	4 (1.2%)	46 (13.5%)	4 (1.2%)	278 (81.5%)	9 (2.6%)	3.71
Teachers regularly administer assignments / tests	5 (1.5%)	15 (4.4%)	7 (2.1%)	307 (90.0%)	7 (2.1%)	3.87
Teachers help us to revise assignments and to make corrections	3 (0.9%)	8 (2.3%)	5 (1.5%)	320 (93.8%)	5 (1.5%)	3.93
I have been helped by teachers to view problems in my work as an opportunity to learn	00 (0.0%)	39 (11.4%)	00 (0.0%)	302 (88.6%)	00 (0.0%)	3.77
Teachers discuss with me my mistakes in order to learn from them	1 (0.3%)	39 (11.4%)	4 (1.2%)	293 (85.9%)	4 (1.2%)	3.76
Teachers guide me to continuously learn from other students	53 (15.5%)	214 (62.8%)	11 (3.2%)	59 (17.9%)	4 (1.2%)	2.26
Teachers always guide me on how to carry out future study tasks	50 (14.7%)	248 (72.7%)	5 (1.5%)	33 (9.7%)	5 (1.5%)	2.11
The teachers allow me time to continuously carry out learning	46 (13.5%)	1 (0.3%)	294 (86.2%)	00 (0.0%)	00 (0.0%)	2.73

The results in Table 4.23 about whether I am encouraged to revise continuously, larger percentage (84.0%) of students concurred, while (14.7%) differed and (1.2%) were without decision. The high mean (3.71) meant that majority of students were encouraged to revise

continuously. Regarding whether teachers regularly administer assignments/tests, majority (92.0%) concurred, (5.9%) differed and (2.1%) were without decision. The high mean (3.87) implies that larger percentage of teachers regularly administer assignments/tests. Concerning whether teachers help us to revise assignments and to make corrections, greater percentage (95.2%) of students concurred, while (3.2%) differed and (1.5%) were without decision. The high mean (3.93) indicates that majority of teachers help students to revise assignments and to make corrections. As to whether I have been helped by teachers to view problems in my work as an opportunity to learn, majority (88.6%) of students concurred while (11.4%) differed. The high mean (3.77) informs that majority of students have been helped by teachers to view problems in their work as an opportunity to learn.

With respect to whether teachers discuss with me my mistakes in order to learn from them, larger percentage (87.0%) concurred while (11.7%) differed and (1.2%) were without decision. The high mean (3.76) meant that majority of teachers discuss with students mistakes in order to learn from them. As regards whether teachers guide me to continuously learn from other students, greater percentage (78.2%) differed, while (20.6%) concurred and (3.2%) were without decision. The low mean (2.26) reveals that teachers do not guide students to continuously learn from other students. On whether teachers always guide me on how to carry out future study tasks, majority percentage (87.3%) of students differed, while (11.2%) concurred and (1.5%) were without decision. The low mean (2.11) meant that majority of teachers don't guide students on how to carry out future study tasks.

As concerns whether teachers allow me time to continuously carry out learning, majority percentage (86.2%) of students were concurred, while (13.8%) differed and (0.3%) were without decision. The average mean (2.73) implies that majority of students were not sure whether

teachers allow them time to continuously carry out learning. To find out how the students rated continuous practice, an average index was calculated for the eight items concept. The summary results are presented in Table 4.24.

Table 4.24

Summary Results for Continuous Practice

	Descriptive		**Statistic**	**Std. Error**
Continuous practice	Mean		3.27	.03
	95% confidence interval for mean	Lower bound	3.22	
		Upper bound	3.32	
	5% trimmed mean		3.31	
	Median		3.38	
	Variance		0.23	
	Std. Deviation		0.48	
	Minimum		1.88	
	Maximum		4.25	
	Range		2.38	
	Interquartile range		0.13	
	Skewness		-1.76	0.13
	Kurtosis		2.51	0.26

The results in Table 4.24 show a mean = 3.27) close to the median (3.38). Despite the negative skew (-1.76), the results were normally distributed. The low average mean also meant that students rated continuous practice to be fairly good. The low standard deviation (0.48) also indicated normal distribution of the responses. The normal distribution of the results is also

displayed by the normal curve in Figure 4.15.

Figure 4.15

Histogram for Continuous Practice

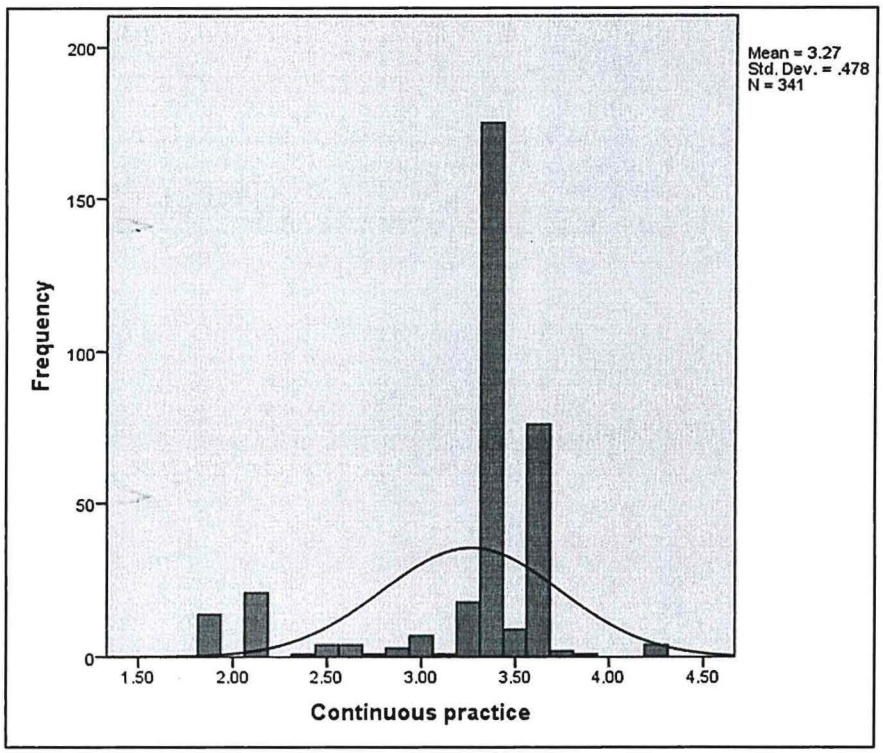


Figure 4.15 shows that the students rated continuous practice to be fairly good (mean = 3.27). The standard deviation (0.48) meant that the results were normally distributed. Therefore, results on continuous practice were fit for correlation and regression analyses.

To find out whether the views of students on continuous practice agreed with those of teachers, the teachers were asked during interviews to give their responses about continuous practice. The teachers' responses suggested that continuous practice was fairly good. T4 stated;

As I mark learners work, I take note of the mistakes they make so that when I get back to class, I can point to the students the mistakes they made in their work. This will help the students to avoid making the same mistakes. This would require marking to be done regularly which i have not been doing myself.

T1 stated; "I always encourage my students to view mistakes as an opportunity to learn from. Every mistake attracts a correction and when that correction is made, that mistake is avoided and when that mistake is avoided, learning has taken place." The responses above from teachers suggested that continuous practice was fair. This finding was consistent with the descriptive statistics which showed that continuous practice was fairly good.

4.4.3 Reinforcement. The construct of reinforcement was studied using nine items. In Table 4.25 are descriptive results on the same.

Table 4.25

Descriptive Results for Reinforcement

Reinforcement	SD	D	U	A	SA	Mean
Teachers praise students who do well during class	00 (0.0%)	86 (25.2%)	6 (1.8%)	239 (70.1%)	10 (2.9%)	3.51
Teachers display good work of students to the whole class	167 (49.0%)	49 (14.4%)	45 (13.2%)	78 (22.9%)	2 (0.6%)	2.12
Teachers question students' behaviour	7 (2.1%)	31 (9.1%)	6 (1.8%)	281 (82.4%)	16 (4.7%)	3.79
Teachers correct students who act inappropriately	6 (1.8%)	77 (22.6%)	2 (0.6%)	255 (74.8%)	1 (0.3%)	3.50
Teachers identify undisciplined students for warning	7 (2.1%)	23 (6.7%)	7 (2.1%)	296 (86.8%)	8 (2.3%)	3.81
Teachers carry out whole class punishment	166 (48.7%)	4 (1.2%)	00 (0.0%)	171 (50.1%)	00 (0.0%)	2.52
Teachers criticise students when they perform poorly	68 (19.9%)	240 (70.4%)	8 (2.3%)	19 (5.6%)	6 (1.8%)	1.99
Teachers carefully evaluate whatever students do in class	108 (31.7%)	181 (53.1%)	00 (0.0%)	48 (14.1%)	4 (1.2%)	2.00
A warm and responsive attitude from teachers make me participate in giving my contributions in class	170 (49.9%)	50 (14.7%)	00 (0.0%)	120 (35.2%)	1 (0.3%)	2.21

The results in Table 4.25 regarding whether teachers praise students who do well during class, majority (73%) of students concurred, while (25.2%) differed and (1.8%) were without decision.

The high mean (3.50) meant that greater percentage of teachers praise students who do well during class. Concerning whether teachers display good work of students to the whole class, greater percentage (63.3%) of students differed, while (23.5%) concurred and (13.2%) were without decision. The low mean (2.11) implies that fair number of teachers display good work of students to the whole class. On whether teachers question students' behaviour, larger percentage (87.0%) of students concurred, while (11.2%) differed and (1.8%) were without decision. The high mean (3.79) reveals that majority of teachers question students' behaviour. About whether teachers correct students who act inappropriately, greater percentage (75.0%) of students concurred, while (24.4%) differed and (0.6%) was without decision. The high mean (3.49) indicates that majority of teachers' correct students who act inappropriately.

As to whether teachers identified undisciplined students for warning, majority percentage (89.0%) of students concurred, while (8.8%) differed and (2.1%) without decision. The high mean (3.81%) informs that majority of teachers identify undisciplined students for warning. With regards to whether teachers carry out whole class punishment, slightly more than half (50.1%) of students concurred and (49.9%) differed. The average mean (2.52%) meant that slightly more than half of teachers carry out whole class punishment. As concerns whether teachers criticise students when they perform poorly, larger percentage (90.3%) of students differed, while (7.4%) concurred and (2.3%) were without decision. The very low mean (1.99) tells that majority of teachers don't criticise students when they perform poorly. With respect to whether teachers carefully evaluate whatever students do in class, greater percentage (84.7%) of students differed, while (15.3%) concurred. The low mean (2.00) reveals that majority of teachers don't carefully evaluate whatever students do in class.

As regards whether warm and responsive attitude from teachers make me participate in giving my contributions in class, greater (64.5%) of students differed, while (35.5%) concurred. The low mean (2.21) indicates that most warm and responsive attitude from teachers don't make students participate in giving contributions in class. To find out how the students rated reinforcement, an average index was calculated for the nine items concept. The summary results for the construct of reinforcement are as presented here in Table 4.26.

Table 4.26: Summary Results for Reinforcement

	Descriptive		**Statistic**	**Std. Error**
Reinforcement	Mean		2.83	0.031
	95% confidence	Lower bound	2.77	
	interval for mean	Upper bound	2.89	
	5% trimmed mean		2.83	
	Median		2.78	
	Variance		0.33	
	Std. Deviation		0.58	
	Minimum		1.78	
	Maximum		3.78	
	Range		2.00	
	Interquartile range		1.06	
	Skewness		-0.02	0.13
	Kurtosis		-1.46	0.26

The results in Table 4.26 show a mean = 2.83) close to the median (2.78). Despite the negative skew (-0.02), the results were normally distributed. The mean also meant that students rated reinforcement to be fairly good. The low standard deviation (0.58) also indicated normal

distribution of the responses. The normal distribution of the results is also displayed by the normal curve in Figure 4.16.

Figure 4.16

Histogram for Reinforcement

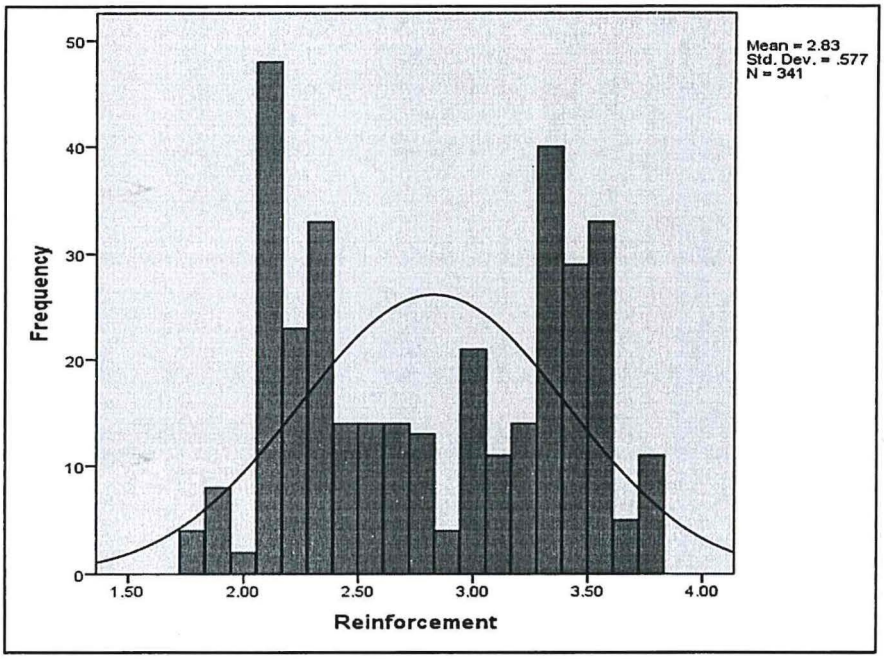


Figure 4.16 shows that the students rated reinforcement to be fair (mean = 2.83). The standard deviation (0.58) meant that the results were normally distributed. Therefore, results on reinforcement were fit for correlation and regression analyses.

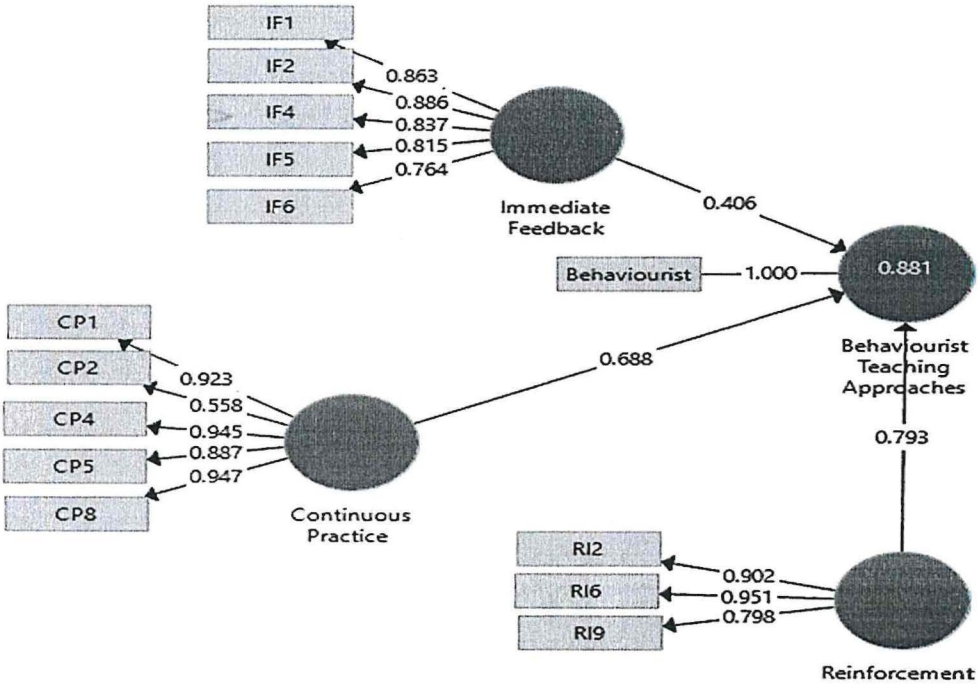
To find out whether the views of students on reinforcement agreed with those of teachers, the teachers were asked during interviews to give their responses about reinforcement. The teachers' responses suggested that reinforcement was fair. T4 stated;

As I mark learners work, I take note of mistakes they make so that when I get back to class, I can point to the students the mistakes they made. This will help the students to avoid making the same mistakes again.

T12 stated; "I personally don't like criticising students who don't perform well. I feel they need support and encouragement. Their own results have already embarrassed them enough. I don't need to add more embarrassment." The above responses from teachers suggested that reinforcement was fair. This finding was consistent with the descriptive statistics which showed that reinforcement was fair.

Figure 4.17

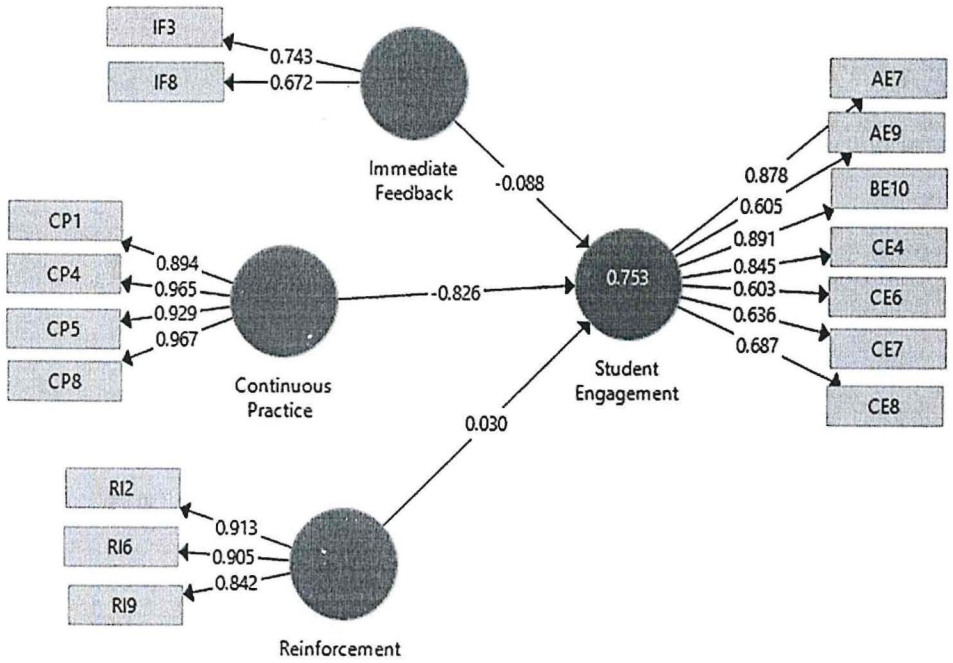
Behaviourist Teaching Model



The structural model Figure 4.17 describes a concept of behaviourist teaching. The model shows that behaviourist teaching is a multi-dimensional concept that involves immediate feedback, continuous practice and reinforcement. The factor loadings obtained show that five out of eight factors of immediate feedback, five out of eight factors of continuous practice and three out of nine factors of reinforcement loaded highly above the minimum validity value (0.5) when using factor analysis as recommended by Hair Et al. (2021). However, some items did not load highly and were removed. Therefore, the items retained for all the constructs in the model were valid measures of those constructs. Those items which were dropped were excluded from subsequent analyses.

Figure 4.18

Structural Equation Path Model Predictions for Behaviourist Teaching and Student Engagement



The results in Figure 4.18 show that behaviourist teaching approaches relate to student engagement. Behaviourist teaching approaches were studied in terms of three factors namely immediate feedback, continuous practice and reinforcement. For behaviourist teaching approaches, two out of eight items for immediate feedback, four out of eight items for continuous practice and three out of nine items for reinforcement constructs that measured the same loaded above the minimum validity value (0.5) when using factor analysis. Student engagement was studied as a four-component model that included namely behaviourist, affective, cognitive and agentic engagements. However, in the test for relationship with the independent variable (behaviourist teaching approaches), two out of nine items of affective engagement, one out of ten items of behaviourist engagement, and four out of nine items of cognitive engagement loaded above the minimum validity value (0.5). The items for agentic engagement did not load above the minimum validity value (0.5). Thus, all items that did not load highly were removed from the model. This meant that behaviourist teaching approaches related to affective, cognitive and behaviourist engagements.

Table 4.27

Structural Equation Path Model Predictions for Behaviourist Teaching and Student Engagement

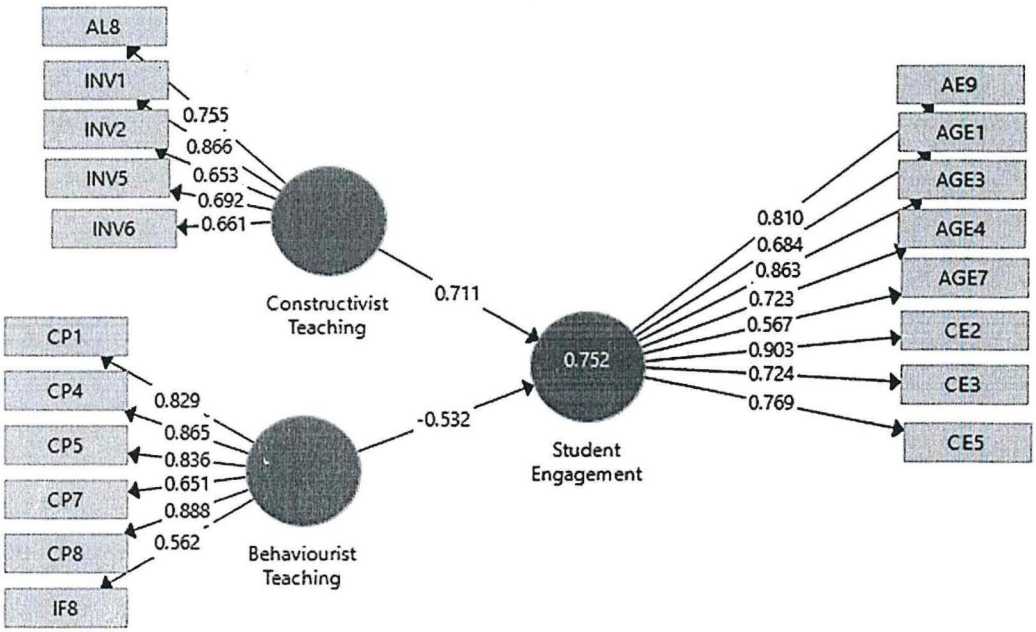
Direct effect	B	Mean	Std	T	P
Continuous practice ⟶ student engagement	-0.826	-0.829	0.027	31.027	0.000
Immediate feedback⟶ student engagement	-0.088	-0.091	0.033	2.703	0.007
Reinforcement ⟶ student engagement	0.030	0.028	0.019	1.577	0.115
R^2= 0.753					
Adjusted r^2= 0.751					

The results in Table 4.27 and Figure 4.23 show the three hypotheses to the effect that continuous practice relates to student engagement (H1.1), immediate feedback relates to student engagement (H1.2), and reinforcement relates to student engagement (H1.3) were tested. The results revealed that continuous practice (β= -0.826, t=31.027, p=0.000) and immediate feedback (β= -0.088, t=2.703, p= 0.007) negatively and significantly predicted student engagement. However, reinforcement (β=0.030, t=1.577, p=0.115) positively and insignificantly predicted student engagement. The path model shows that the three behaviourist approaches namely continuous practice, immediate feedback and reinforcement contributed (0.753) which is (75.3%) on student engagement. The adjusted r^2 (0.751) suggested that the significant factors namely continuous practice and immediate feedback contributed (75.1%) to student engagement. This means that coeffiient of determination suggested that (24.9%) of variation in student engagement was accounted for by other factors not considered for under this model. Since the relationship

between continuous practice, immediate feedback and student engagement was negative and significant, the hypothesis was accepted. Therefore, there is need to minimally adopt behaviourist teaching approaches in secondary schools.

Figure 4.19

Summary Model of Constructivist, Behaviourist and Student Engagement



The results of Figure 4.19 show independent variables namely constructivist teaching approaches and behaviourist teaching approaches were tested for factor loading. Constructivist teaching approaches had four constructs namely active learning, collaborative learning, teacher support and contextual learning. For active learning, one item out of eight loaded above the minimum validity value (0.5) when using factor analysis (Hair Et al., 2021). For invested effort, four out of eight items loaded above (0.5). Behaviourist teaching approaches was studied in terms of continuous practice, immediate feedback and reinforcement. For continuous practice, five out of

eight items loaded above (0.5). For immediate feedback, one out of eight items loaded above (0.5). Student engagement was studied in terms of behaviourist, affective, cognitive and agentic engagements. For affective engagement, one out of nine items loaded above (0.5). For cognitive engagement, three items out of nine loaded above (0.5). For agentic engagement, four out of seven items loaded above (0.5). The items that did not load above (0.5) were removed from the model.

Table 4.28

Overall Structural Equation Path Model for Constructivist, Behaviourist and Student Engagement

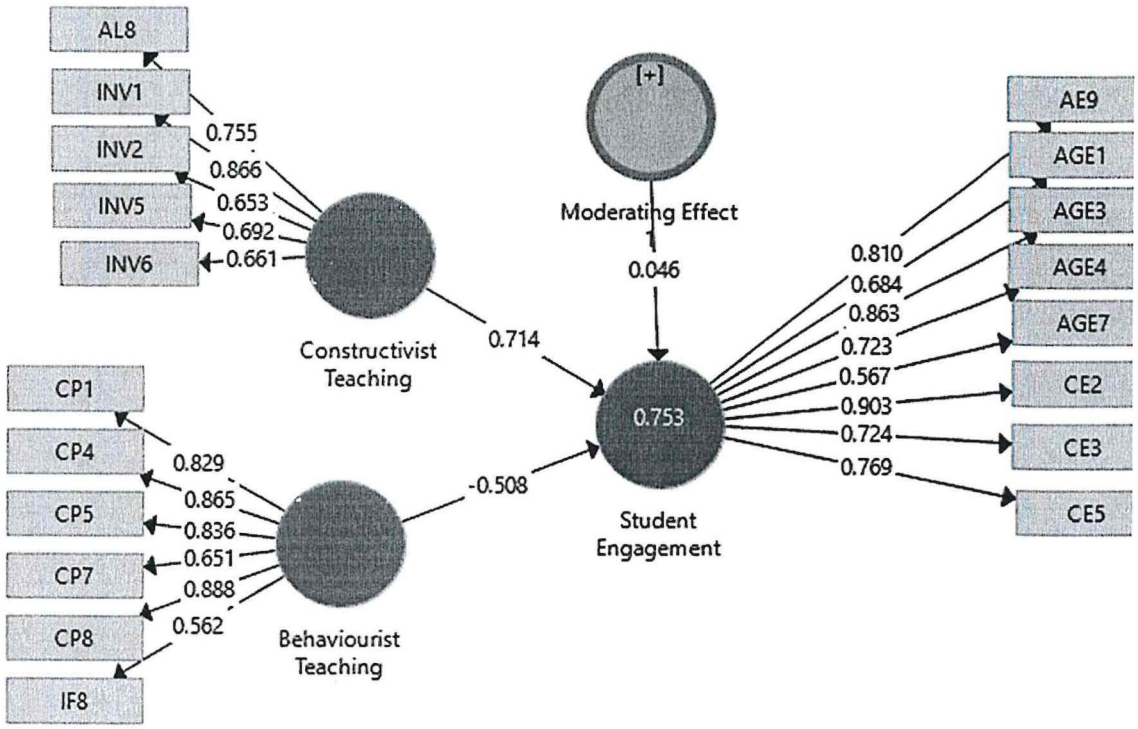
Direct effect	**B**	**Mean**	**Std**	**T**	**P**
Behaviourist teaching → student engagement	-0.532	-0.529	0.036	14.853	0.000
Constructivist teaching student→ engagement	0.711	0.712	0.021	33.798	0.000
R^2= 0.752					
Adjusted r^2 = 0.750					

The results in Table 4.28 show that two hypotheses to the effect that behaviourist teaching approaches relate to student engagement and constructivist teaching approaches relate to student engagement were tested. The results revealed that constructivist teaching approaches (β=0.711, t=33.798, p=0.000) positively and significantly predicted student engagement while behaviourist teaching approaches (β = -0.532, t=14.853, p=0.000) negatively and significantly predicted student engagement. The adjusted r^2 (0.750) suggested that the significant factors namely constructivist teaching approaches and behaviourist teaching approaches contributed to (75%) to

student engagement. Thus, the coefficient of determination suggested that (25%) of variation in job satisfaction was contributed for by other factors not considered in this model. Therefore, this implied that if secondary schools put emphasis on constructivist teaching approaches, it is most likely that student engagement will improve.

Figure 4.20

Moderating Effect of Behaviourist Teaching on Constructivist and Student Engagement



The results in Figure 4.20 show that six factors measured constructivist teaching approaches namely; active learning, invested effort, positive regard, teacher expectation, teacher accessibility and collaborative learning were tested for factor loadings. For active learning, one item out of eight loaded highly above the minimum validity value (0.5) when using factor analysis. For

invested effort four out of eight indicators loaded highly above the minimum validity value (0.5). No item loaded highly for positive regard, teacher expectations, teacher accessibility and collaborative learning. Behaviourist teaching approaches were measured using three constructs namely continuous practice, immediate feedback and reinforcement. For continuous practice five out of eight items loaded highly above the minimum validity value (0.5). For immediate feedback, one out of eight items that measured the same loaded highly above (0.5). No item loaded for reinforcement. Student engagement was measured in terms of four constructs namely behaviourist, affective, cognitive and agentic engagements. For affective engagement, one out of nine items loaded highly. For agentic engagement, four out of seven items loaded highly and for cognitive engagement, three out of nine items loaded highly above the minimum validity value (0.5). However, no item on behaviourist engagement loaded highly above the minimum validity value (0.5).

Table 4.29

Moderating Equation Path Model for Constructivist, Behaviourist Teaching and Student Engagement

Moderation effect	B	Mean	Std	T	P
Behaviourist teaching → student engagement	-0.508	-0.511	0.034	15.149	0.000
Constructivist teaching→ student engagement	0.714	0.714	0.019	36.713	0.000
Moderating effect → student engagement	0.046	0.039	0.044	1.037	0.300
$R^2 = 0.753$					
Adjusted $r^2 = 0.750$					

The model inn Figure 4.25 and Table 4.29 hypothesised that behaviourist teaching approaches had a moderating effect on constructivist teaching approaches and student engagement. The results in Table 4.30 show that behaviourist teaching approaches had path coefficient value (β = -0.508, T=15.149, P = 0.000), meaning that behaviourist teaching approaches had negative and significant effect on student engagement. The constructivist teaching approaches had path coefficient (β=0.714, T=36.713, P=0.000), meaning that constructivist teaching approaches had positive and significant effect on student engagement. To prove the moderating effect of behaviourist teaching approaches on the relationship between constructivist teaching approaches and student engagement, interaction coefficient test is done. The path coefficient of constructivist teaching approaches, behaviourist teaching approaches and student engagement was (β=0.046, T= 1.037, P=0.300) meaning that behaviourist teaching approaches positively but insignificantly moderated the relationship between constructivist teaching approaches and student engagement. Therefore, the hypothesis to the effect that behaviourist teaching approaches have a moderating influence on the relationship between constructivist teaching approaches and student engagement was rejected. Therefore, behaviourist teaching approaches did not have any moderating effect on the relationship between constructivist teaching approaches and student engagement.

Chapter Five

Discussion, Conclusions and Recommendations

5.0 Introduction

This chapter presents the discussion, conclusion and recommendations on correlates of student engagement. The discussion involves cross-referencing of the findings of the study with previous literature. Thus, drawing conclusions from the discussion and making recommendations based on the conclusions.

5.1 Discussion of the Findings

This section of the study presents the discussion of the study findings discussing correlates of student engagement. The discussion begins with discussing of the descriptive results for student engagement (DV) and inferential results of correlates of student engagement.

5.1.1 Hypothesis One (H_1): There is a significant relationship between Constructivist Teaching Approaches and Student Engagement in Secondary Schools. It was hypothesised in the first hypothesis that there is a significant relationship between Constructivist teaching approaches and student engagement in secondary schools. The hypothesis test results showed that there was a positive and significant relationship between constructivist teaching approaches and student engagement. Thus the hypothesis was accepted. This result was consistent with the findings of previous studies (Timmermans et al., 2015; Gajda et al., (2017; Shernoff et al., 2017; Arjomandi et al., 2018; Stone & Springer, 2019) Therefore, there is a positive and significant relationship between Constructivist teaching approaches and student engagement in secondary schools.

5.1.1.1 Active Learning and Student Engagement

The hypothesis on the constructs was to the effect that there is a significant relationship between active learning and student engagement was derived. The overall results for hypothesis to objective one to the effect that there is a relationship between active learning and student engagement was negative and significant. This finding was consistent with the findings of the previous scholars (Fitzsimons, 2014; Jamaludin & Osman, 2014; Nguyen et al., 2016; Khan et al., 2017; Arjomandi et al., 2018; Abdullah & Yang, 2019;). With findings of this study agreeing with findings of previous scholars, it can be surmised that active learning is important for student engagement.

5.1.1.2 Collaborative Learning and Student Engagement

The hypothesis on the constructs was to the effect that there is a significant relationship between collaborative learning and student engagement was derived. The overall results for hypothesis to objective one to the effect that there is a relationship between collaborative learning and student engagement was negative and significant. This finding was consistent with the findings of the previous scholars (Hernandez, 2012; McGarrigle, 2013; Chandra, 2015; Bharucha, 2017; Backer et al., 2018; Ansari & Khan, 2020). With the findings of this study supporting findings of previous scholars, it is therefore evident that collaborative learning is paramount in student engagement.

5.1.1.3 Teacher Support and Student Engagement

The hypothesis on the constructs was to the effect that there is a significant relationship between invested effort and student engagement was derived. This finding was in agreement with the

findings of previous scholars (Hazari et al., 2015; Lai, 2015; Paolini, 2015; Akiba & Liang, 2016; Gajda et al., 2017). Further, the finding was in agreement with the findings of previous scholars (De Vito, 2016; Bockmier-sommers et al., 2017; Shernoff et al., 2017; Martin & Collie, 2019; Pedler et al., 2020). Also, the finding supported the findings by previous scholars (Mizala et al., 2015; Timmermans et al., 2015; Timmermans et al., 2016; Denessen et al., 2020; Gentrup et al., 2020; Timmermans et al., 2021). In the same vein, the finding agreed with **previous** scholars (Strati et al., 2016; Baker, 2018; Stone & Springer, 2019; Bagheri & Zenouzagh, 2021). Thus, with the findings of this study consistent with findings of previous scholar, can be inferred that teacher support is imperative for student engagement.

5.1.1.4 Contextual Learning and Student Engagement.

The objective sought to establish the relationship between contextual learning and student engagement. Thus, a hypothesis to the effect that there is a significant relationship between contextual learning and student engagement was derived. The overall result for hypothesis to objective one to the effect that there is a relationship between contextual learning and student engagement was negative and significant. This finding was consistent with the findings of the previous scholars (Lam, et al., 2012; Köse & Tosun, 2015; Marini, 2016). However, Qudsyi et al. (2018) did not find significant relationship between contextual learning and student engagement. With the findings of this study agreeing with findings of majority of previous scholars, it is therefore evident that contextual learning is important in student engagement.

5.1.2 Hypothesis Two (H_2): There is a significant relationship between Behaviourist Teaching Approaches and Student Engagement in Secondary Schools. The second hypothesis of the study stated that there is a significant relationship between behaviourist teaching approaches and student engagement in secondary schools. The hypothesis test results showed that there was a negative and significant relationship between behaviourist teaching approaches and student engagement. Therefore, the hypothesis was accepted. This result was consistent with the findings of previous studies (Sancho-Vinuesa et al., 2013; Tshomo & Lhaden, 2015; Holmes, 2018; Rao, 2018; Marwan et al., 2020). Therefore, minimal use of behaviourist teaching approaches is important for student engagement.

5.2.1.1 Immediate Feedback and Student Engagement

The objective of the study sought to establish the relationship between immediate feedback and student engagement. Thus, from this objective, hypothesis that there is a significant relationship between immediate feedback and student engagement was derived. The overall result for hypothesis to objective one that there is a significant relationship between immediate feedback and student engagement was negative and significant. This finding agreed with those of the other scholars (Sancho-Vinuesa et al., 2013; Cooper et al., 2018; Zhang & Hyland, 2018). With the finding of this study agreeing with findings of previous scholars, providing immediate feedback to students is essential for student engagement.

5.2.1.2 Continuous Practice and Student Engagement

The objective of the study sought to establish the relationship between continuous practice and student engagement. Thus, from this objective, hypothesis to the effect that there is a significant

relationship between continuous practice and student engagement was derived. The overall result for hypothesis to objective two that there is a significant relationship between continuous practice and student engagement was negative and significant. This finding was consistent with the results of previous scholars (Carrillo-de-la-peña & Perez, 2012; Holmes, 2015; Kang, 2016; Holmes, 2018). Therefore, it can be inferred that continuous practice is vital for student engagement.

5.2.1.3 Reinforcement and Student Engagement

The objective of the study sought to establish the relationship between reinforcement and student engagement. Thus, from this objective, a hypothesis to the effect that there is a significant relationship between reinforcement and student engagement was derived. The overall result for hypothesis to objective three to the effect that there is a significant relationship between reinforcement and student engagement was positive and insignificant. This finding agreed with earlier studies (Virtanen et al., 2015; Göksün & Gürsoy, 2019). However, the result disagreed with the earlier studies (Soto, 2014; Firdaus, 2015; Tshomo & Lhaden, 2015) who found it to be positive and significant. With the results of this study being contrary to the findings on which this study was premised, therefore, reinforcement is not essential for student engagement.

5.2.3 Hypothesis Three (H_3): Behaviourist Teaching Approaches have a moderating influence on the relationship between Constructivist Teaching Approaches and Student Engagement in Secondary Schools.

The third hypothesis stated that behaviourist teaching approaches have a significant moderating influence on the relationship between constructivist teaching approaches and student engagement in secondary schools. The overall result for hypothesis to objective to the effect that behaviourist teaching approaches have a significant moderating relationship between constructivist teaching approaches and student engagement was positive and insignificant. Therefore, behaviourist teaching approaches has no moderating influence on the relationship between constructivist teaching approaches and student engagement. This finding disagreed with the results of previous studies (Algahtani, 2017; Serin, 2018; Cronje, 2020; Lockey et al., 2020). The finding of this study is inconsistent with results of earlier studies which found that constructivist and behaviourist approaches have a relationship with student engagement. Therefore, combining behaviourist teaching approaches and constructivist teaching approaches is not necessary for student engagement.

5.3 Conclusion

This section presents the conclusion of study based on the objectives of the study. Thus, the following conclusions were drawn from the study objectives.

1. Constructivist teaching approaches are imperative for student engagement. If teachers encourage research driven activities for students, encourage creativity in the classroom, respect and support students, holds students accountable in order for students to adopt an active role in their assignments, class activities and events, have positive relationship with students and have high expectation from students, student engagement will improve.

2. Behaviourist teaching approaches are not essential for student engagement. Teachers' use of immediate feedback, continuous practice and reinforcement has little influence on student engagement. Therefore, teachers should minimise the use of behaviourist teaching approaches in secondary schools.
3. Combining the behaviourist teaching approaches and constructivist teaching approaches is not requirement for promoting student engagement. This is because using behaviourist teaching approaches together with constructivist teaching approaches do not enhance student engagement in secondary schools. Therefore, teachers should minimise combining behaviourist and constructivist teaching approaches in secondary schools.

5.4 Recommendation

This study examined the relationship between constructivist, behaviourist teaching approaches and student engagement in secondary schools. From the conclusion, the following recommendations were made;

1. Teachers should adopt the constructivist teaching approaches to enhance student engagement. This should involve encouraging research driven activities for students, encouraging creativity in the classroom, respecting and supporting students, holding students accountable in order for students to adopt an active role in their assignments, class work and events, having positive relationship with students and having high expectation from students. It may require retraining of all secondary school teachers through refresher courses on constructivist teaching approaches.

2. Teachers should make effort to limit the use of behaviourist teaching approaches in teaching learning process. This is because behaviourist teaching approaches involving

use of immediate feedback, continuous practice and reinforcement have a negative and significant impact on student engagement.

3. Teachers should make effort to minimize combining constructivist and behaviourist teaching approaches in an effort to promote student engagement. This is because behaviourist teaching approaches have positive and insignificant influence on constructivist teaching approaches and student engagement. Therefore combining both approaches do not enhance student engagement in secondary schools.

5.5 Limitations and suggestions for further research.

Behaviourist teaching approaches had negative and significant relationship with student engagement which was inconsistent with majority of scholars who found it to have a positive and significant relationship with student engagement. This therefore calls for further studies on the relationship between behaviourist teaching approaches and student engagement.

REFERENCES

Ahmed, I., & Ishtiaq, S. (2021). Reliability and validity importance in medical research. *Journal of the Pakistan Medical Association, 71*. 2403. 10.47391/JPMA.06-861.

Akiba, M., & Liang, G. (2016). Effects of teacher professional learning activities on student achievement growth. *The Journal of Educational Research, 109*(1), 99-110.

Akpan, J. P., & Beard, L. A. (2016). Using constructivist teaching strategies to enhance academic outcomes of students with special needs. *Universal Journal of Educational Research, 4*(2), 392-398.

Alarcón, D. & Sánchez, J.A. (2015). Assessing convergent and discriminant validity in the ADHD-R IV rating scale: User written commands for average variance extracted (AVE), composite reliability (CR), and hetero-trait-monotrait ratio of correlations (HTMT). *Universidad Pablo de Olavide.* dalarub@upo.es

Alero, T. (2016). *Analyzing performance of co-curricular activities in secondary schools in Arua district* (Masters Dissertation, Makerere University). Kampala, Uganda.

Algahtani, F. H. (2017). Teaching students with intellectual disabilities: Constructivism or behaviorism? *Educational Research Review, 12*, 1031-1035.

Alrajeh, T.S., & Shindel, B. W. (2015). Student engagement and mathematics teacher's support. *Journal on Mathematics Education, 11*(2), 167-180.

Alt, D. (2015). Assessing the contribution of a constructivist learning environment to academic self-efficacy in higher education. *Springer Science+Business Media Dordrecht,* doi 10.1007/s10984-015-9174-5

Ansari, J. A. N., & Khan, N.A. (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environment, 7, 9.* https://doi.org/10.1186/s40561-020-00118-7

Apuke, Oberiri. (2017). Quantitative research methods: A synopsis approach. *Arabian Journal of Business and Management Review (Kuwait Chapter), 6,* 40-47. 10.12816/0040336.

Arjomandi, A., Seufert, J., o'brien, M., & Anwar, S. (2018). Active teaching strategies and student engagement: A comparison of traditional and non-traditional business students. *E-Journal of Business Education and Scholarship of Teaching, 12* (2), 120-140.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel, 25*(4).297-308.

Atxurra, C., Villardon-Gallego, L., & Calvete, E. (2015). Design and validation of the cooperative learning application scale (CLAS). *Revista De Psicodidáctica, 20* (2), 339-357. doi: 10.1387/revpsicodidact.11917.

Backer, J. M., Miller, J. L., & Timmer, S. M. (2018). *The effect of collaborative grouping on student engagement in middle school students*. Retrieved July 4, 2022 from https://sophia.stkate.edu/maed/280

Bagheri, M., & Zenouzagh, Z. (2021). Comparative study of the effect of face-to-face and computer mediated conversation modalities on student engagement: Speaking skill in focus. *Asian Journal of Second Foreign Language Education, 6 (*5). https://doi.org/10.1186/s40862-020-00103-0

Bakar, R. (2018). The influence of professional teachers on Padang vocational school students' achievement. *Kasetsart Journal of Social Sciences, 39*(1), 67-72.

Bastable, S.B., Sopczyk, D., & Gramet, P. (2010). *Health professional as educator: Principles of teaching and learning* (1st Ed.). Burlington: Jones & Bartlett Learning.

Bharucha, J. P. (2017). Building student engagement through collaborative practice in business management education. *International Journal of Virtual and Personal Learning Environments, 7* (2), 1-12.

Bloom, B. S. (1968). Learning for Mastery. Instruction and Curriculum. Regional Education Laboratory for the Carolinas and Virginia, Topical Papers and Reprints, Number 1. *Evaluation comment*, *1*(2), n2.

Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, *22*(2), 27-30.

Boateng, P., & Sekyere, F. O. (2018). Exploring in-service teachers' self-efficacy in the kindergarten classrooms in Ghana. *International Journal of Instruction*, *11* (1), 239-254.

Bockmier-Sommers, D., Chen, C. C., & Martsch, M. (2017). Student perception of teacher empathy, high regard and genuineness and the impact on student engagement. *E-mentor*, (3 (70), 66-72.

Bond, M., & Bedenlier, S. (2019). Facilitating student engagement through educational technology: Towards a conceptual framework. *Journal of Interactive Media in Education*, 1 (11), 1-14. https://doi.org/10.5334/jime.528.

Bond, M., Bedenlier, S., Buntins, K., Kerres, M. & Zawacki-Richter, O. (2020). Facilitating student engagement in higher education through educational technology: a narrative systematic review in the field of education. *Contemporary Issues in Technology and Teacher Education, 20*(2), 315-368. Retrieved February 12, 2022 from https:// www.learntechlib.Org/primary/p/208718/.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology.

Carrillo-De-La-Peña M.T., & Perez, J. (2012). Continuous assessment improved academic achievement and satisfaction of psychology students in Spain. *Teach. Psychol,* 39(1):45-47. doi: 10.1177/0098628 311430312.

Caulfield, J. (2022, November 25). *How to Do Thematic Analysis: Step-by-Step Guide & Examples.* Scribbr. Retrieved June 21, 2023, from https://www.scribbr.com/methodology/thematic-analysis.

Chandra, R. (2015). Collaborative learning for educational achievement. *IOSR Journal of Research & Method in Education (IOSR-JRME), 5*(3), 2320-7388.

Colwell, S. R., Aung, M., Kanetkar, V., & Holden, A. L. (2008). Toward a measure of service convenience: Multiple□item scale development and empirical test. *Journal of Services Marketing*, 22(2) 160-169. https://doi.org/10.1108/08876040810862895

Cooper, J. T., Whitney, T., & Lingo, A. S. (2018). Using immediate feedback to increase opportunities to respond in a general education classroom. *Rural Special Education Quarterly, 37*(1), 52-60. doi: 10.1177/8756870517747121.

Cox, S., Black, J., Heney, J., & Keith, M. (2015). Promoting teacher presence: Strategies for effective and efficient feedback to student writing online. *Teaching English in the two year college, 42*(4), 376.

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks: Sage publications.

Cronje, J. (2020). Towards a new definition of blended learning. *Electronic journal of e-Learning, 18*(2), 114-121.

Dagar, V., & Yadav, A. (2016). Constructivism: A paradigm for teaching and learning. *Arts and Social Science Journal*, 7(200). doi: 10.4172/2151-6200.1000200.

Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092. Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092.

De Villiers, B., & Werner, A. (2016). The relationship between student engagement and academic success. *Journal for New Generation Sciences*, *14* (1), 36-50.

Delen, I. & Bellibas, M.S. (2015). Formative Assessment, Teacher-Directed Instruction And Teacher Support In Turkey: Evidence from Pisa 2012. *Mevlana International Journal of Education.* http://mije.mevlana.edu.tr/http://dx.doi.org/10.13054 /mije.15.01.5.1

Delfino, A. P. (2019). Student engagement and academic performance of students of Partido State University. *Asian Journal of University Education*, *15*(1), 1-16.

Demirci, C. (2017). The effect of active learning approach on attitudes of 7th grade students. *International Journal of Instruction*, *10* (4), 129-144. doi: 10.12973/iji.2017.1048a

Denessen, E., Keller, A., van den Bergh, L., & van den Broek, P. (2020). Do teachers treat their students differently? An observational study on teacher-student interactions as a function of teacher expectations and student achievement. *Education Research International.*

Devito, M. (2016). Factors influencing student engagement. unpublished certificate of advanced study thesis. *Sacred Heart University, Fairfield.* Retrieved from http://digitalcommons.sacredheart.edu/edl/11

Duit, R. (2016). The constructivist view in science education–what it has to offer and what should not be expected from it. *Investigaçôesemensino de ciências, 1*(1), 40-75.

Education abstract (2017). Education policy and planning department, Ministry of Education and Sports.

Ertmer, P. A., & Newby, T. J. (2013). Behaviourism, cognitivism, and constructivism: Comparing critical features from an instructional design perspective. *Performance Improvement Quarterly, 26* (2), 43-71. https://doi.Org/10.1002/Piq.21143

Fairchild, A. & MacKinnon, D. (2008). A general model for testing mediation and moderation effects. *Prevention science: the official journal of the Society for Prevention Research,* 10, 87-99. 10.1007/s11121-008-0109-6.

Firdaus, F.H. (2015). Teacher praises and students' engagement in EFL classroom: A case study of seventh grade students at one of junior high school in Bandung. *J. English Education, 3*(2):28-40.

Fitzsimons, M. (2014). Engaging students' learning through active learning. *Irish Journal of Academic Practice,* 3 (1), 1-27. doi: 10.21427/d7842t.

Gajda, A., Beghetto, R. A., & Karwowski, M. (2017). Exploring creative learning in the classroom: A multi-method approach. *Thinking Skills and Creativity, 24*, 250-267. https://doi.org/10.1016/j.tsc.2017.04.002

Gentrup, S., Lorenz, G., Kristen, C., & Kogan, I. (2020). Self-fulfilling prophecies in the classroom: Teacher expectations, teacher feedback and student achievement. *Learning and Instruction, 66*, 101296.

Göksün, D. O. & Gürsoy, G. (2019). Comparing success and engagement in gamified learning experiences via Kahoot and Quiz, Computers & Education. 135, 2019, 0360-1315,

https://doi.org/10.1016/j.compedu.2019.02.015. retrieved 7/7/22 from https://www.Science direct.com/science/article/pii/S0360131519300442

Goodman, A. (2016). The manifestation of student engagement in classrooms: A phenomenological case study of how teachers experience student engagement and how it influences pedagogical decision making. *University of Nevada, Las Vegas.*

Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research, 109*, 101-110. https://doi.org/10.1016/j.jbusres.2019.11.069.

Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107-123. https://doi.org/10.1504/IJMDA.2017.087624.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European business review*, *26*(2), 106-121. https://doi.org/10.1108/ebr-10-2013-0128

Hamid, M., Sami, W. & Sidek, M. (2017). Discriminant validity assessment: Use of fornell & larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series,* 890. 012163. 10.1088/1742-6596/890/1/012163.

Hapsari, A. M. & Anni, C. T. (2017)). *Increasing elementary students' behavioural engagement through applying token economy technique.* In *9th International Conference for Science Educators and Teachers.* ICSET 2017. doi https://doi.org/ 10.2991/icset-17.2017.85.

Hartikainen, S., Rintala, H., Pylvas, L., & Nokelainen, P. (2019). The concept of active learning and the measurement of learning outcomes: A review of research in engineering higher education. *Education Sciences,* 9 (276) 1-19. doi: 10.3390/educsci 9040276.

Hazari, Z., Cass, C., & Beattie, C. (2015). Obscuring power structures in the physics classroom: Linking teacher positioning, student engagement, and physics identity development. *Journal of Research in Science Teaching*, 52(6), 735-762.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*, 115-135.

Hernandez, R. (2012). Collaborative learning: Increasing student engagement outside the classroom. *Us-China Education Review,* A 9, 804-812.

Holec, V., & Marynowski, R. (2020). Does it matter where you teach? Insights from a quasi-experimental study of student engagement in an active learning classroom, *8*(2), 140–164. https://doi.org/10.20343/teachlearninqu.8.2.10

Holmes, N. (2015). Student Perceptions of their Learning and Engagement in response to the use of a Continuous E-Assessment in an Undergraduate Module. *Assessment & Evaluation in Higher Education*, 40:1,1-14, doi: 10.1080/02602938.2014.881978

Holmes, N. (2015). Student Perceptions of their Learning and Engagement in response to the use of a Continuous E-Assessment in an Undergraduate Module. *Assessment & Evaluation in Higher Education*, 40:1,1-14, doi: 10.1080/02602938.2014.881978

Holmes, N. (2018). Engaging with assessment: Increasing student engagement through continuous assessment. *Active Learn. Higher Educ.* 19(1):23-34. doi: 10.1177/1469787417723230.

Jaleel, S. & Verghis, A. (2015). Knowledge creation in constructivist learning. *Universal Journal of Educational Research,* 3. 8-12. 10.13189/ujer.2015.030102.

Jones-Smith, E. (2019). *Theories of counseling and psychotherapy: An integrative approach.* Sage Publications.

Juavinett, A. L., Erlich, J. C., & Churchland, A. K. (2018). Decision-making behaviors: Weighing ethology, complexity, and sensori-motor compatibility. *Current opinion in neurobiology,* 49, 42-50.

Kang, S. H. (2016). Spaced repetition promotes efficient and effective learning: Policy implications for instruction. *Policy Insights from the Behavioral and Brain Sciences*, *3*(1), 12-19. https://doi.org /10.1177/2372732215624708.

Kara, M. (2019). A literature review: The usage of constructivism in multidisciplinary learning environments. *International Journal of Academic Research in Education*, *4*(1-2), 19-26. doi: 10.17985/ijare.520666

Kawa, U. (2020). Schools in Arua District-KAWA Uganda. Retrieved February 24, 2022, from https://kawa.ac.ug/2020/03/31/ schools- in-arua-district/

Kennedy, C., Jolivette, K. (2008). The effects of positive verbal reinforcement on the time spent outside the classroom for students with emotional and behavioural disorders in a residential setting. *Behavioural Disorders,* 33(4):211-221. https://doi.org/10.1177/019874290803300402.

Khan, A., Egbue, O., Palkie, B., & Madden, J. (2017). Active learning: Engaging students to maximize learning in an online course. *Electronic Journal of E-Learning*, 15 (2), 107-115.

Koprivica, Č. D. (2020). The concept of engagement. *Philosophy and Society, 31*(2), 177-193. https://doi.org/10.2298/fid2002177k

Korstjens, I., & Moser, A. (2018). Series: Practical guidance to qualitative research. *European Journal of General Practice*, 24 (1), 120-124.

Köse, E. Ö., & Tosun, F. Ç. (2015). Effect of context based learning on students' achievement and attitudes in Biology. *Kastamonu Eğitim Dergisi, 23* (4), 1425-1436.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement,* 30, 607-610.

Kumar, A. & Kumar, A. (2017). Constructivism: A learner centred approach that improves students' academic performance and Achievement in social science at upper primary level. *Internationai Journal of Management and Applied Science*, 2394-7926 http://iraj.in

Kurt, S. (2021). Constructivist Learning Theory. *Educational Technology.*

Lafreniere, L.S., & Newman, M. G. (2019). Probabilistic learning by positive and negative reinforcement in generalized anxiety disorder. *Clinical. Psychology. Science.* 7(3):502-515. doi: 10.1177/216770261880936.

Lai, C. (2015). Modelling teachers' influence on learners' self-directed use of technology for language learning outside the classroom. *Computers & education*, 82, 74-83.

Lai, M. H. C. (2021). Composite reliability of multilevel data: It's about observed scores and construct meanings. *Psychological Methods,* 26(1), 90–102. https://doi.org/10.1037/met0000287

Lam, S. F., Jimerson, S., Wong, B. P., Kikas, E., Shin, H., Veiga, F. H., & Stanculescu, E. (2014). Understanding and measuring student engagement in school: The results of an

international study from 12 countries. *School Psychology Quarterly*, 29 (2), 213-232. doi: 10.1037/spq0000057.

Lam, S. F., Wong, B. P., Yang, H., & Liu, Y. (2012). Understanding student engagement with a contextual model. In *Handbook of research on student engagement.* Springer, Boston, MA. doi: 10.1007/978-1-4614-2018-7-19.

Lazarova, B., Hlaďo, P. & Hlouškova, L. (2019). Perception of teacher support by students in vocational education and its associations with career adaptability and other variables. *Psychology in Russia.*

Le, H., Janssen, J., & Wubbels, T. (2018). Collaborative learning practices: Teacher and student perceived obstacles to effective student collaboration. *Cambridge Journal of Education,* 48 (1), 103-122. https://doi.org/10.1080/0305764 X.2016.1259389

Lee, J., Song, H., & Hong, A. J. (2019). Exploring factors and indicators for measuring students' sustainable engagement in e-learning. *Sustainability,* 11(985).1-12. doi:10.3390/su11040985.

Lee, J-S. (2012). The effects of the teacher–student relationship and academic press on

Lei, H., Cui, Y., & Zhou, W. (2018). Relationships between student engagement and academic achievement: A Meta-analysis. *Social Behaviour and Personality: an international journal*, 46 (3), 517-528. https://doi.org/10.2224/sbp.7054.

Leibold, N. & Schwarz, L. M. (2015). The art of giving online feedback. *The j.effective teach,* 15 (1): 34 - 46.

Lester, D. (2013). A review of the student engagement literature. *Focus on colleges, universities, and schools*, 7(1) 2013.

Lockey, A., Conaghan, P., Bland, A., & Astin, F. (2021). Educational theory and its application to advanced life support courses: a narrative review. *Resuscitation Plus, 5*. 100053. 10.1016/j. resplu.2020.100053.

Lotulung, C. F., Ibrahim, N., & Tumurang, H. (2018). Effectiveness of learning method contextual teaching learning (CTL) for increasing learning outcomes of entrepreneurship education. *Turkish Online Journal of Educational Technology- TOJET, 17*(3), 37-46.

Ludigo, H., Mugimu, C.B., Mugagga, A.M. (2019). Teacher centred strategy and academic achievement of students in public universities of uganda. *Direct res. Journal of Education. Vocational. Studies,* 1(1):1-10. doi: https://doi.org/10.5281/ 10.5281/zenodo.3497108.

Mameli, C., & Passini, S. (2018). Development and validation of an enlarged version of the student agentic engagement scale. *Journal of Psychoeducational Assessment*. Advance online publication. https://doi.org/10.1177/073428291875784

Manyiraho, D., Atibuni, D. Z., Olema, D. K., & Wamakote, L. (2020, May). SESEMAT In-service Pedagogical Strategies and Students' Achievement in Science at Ordinary Level in Tororo SESEMAT Region. In *2020 IST-Africa Conference (IST-Africa)* (pp. 1-8). IEEE.

Marini, A. (2016). Enhancement of student learning outcomes through the use of contextual teaching and learning. *International Journal of Sciences and Research, 72* (11), 26-43.

Markelz, A. M., & Taylor, J. C. (2016). Effects of Teacher Praise on Attending Behaviors and Academic Achievement of Students with Emotional and Behavioral Disabilities. *Journal of Special Education Apprenticeship*, *5*(1). https://scholarworks.lib.csusb.edu/josea/vol5/iss1/1

Martin, A. J., & Collie, R. J. (2019). Teacher–student relationships and students' engagement in high school: Does the number of negative and positive relationships with teachers matter? *Journal of Educational Psychology, 111*(5), 861.

Marwan, S., Gao, G., Fisk, S., Price, T. W., & Barnes, T. (2020, August). Adaptive immediate feedback can improve novice programming engagement and intention to persist in computer science. *In Proceedings of the 2020 ACM conference on international computing education research.*

Mascolo, M. F., & Fischer, K. W. (2005). Constructivist Theories. In B. Hopkins, R. G. Barr, G. Michel, and P. Rochat [Eds.]. *Cambridge Encyclopaedia of child development*, (pp. 49-63). Cambridge University Press.

Mcgarrigle, J. (2013). Exploring student engagement and collaborative learning in a community-based module in fine art. *Irish Journal of Academic Practice,* 2 (1), 1-12. Retrieved 4/8/22 from http://arrow.dit.ie/ijap/vol2/iss1/1

Mcleod, S. A. (2018, June 06). *Jean Piaget's theory of cognitive development.* Retrieved July 20, 2022 from https://www.simply psychology.org/piaget.html.

Metheny, J., Hawley, E.M., & Elin, M.O. (2008). Measuring perceived teacher support and its influence on adolescent career development. *Journal of career assessment*, 218–237 doi: 10.1177/1069072707313198.

Ministry of Education & Sports. (2020). Universal primary education/universal secondary education data.

Ministry of Education and Sports. (2017). Positive discipline/alternatives to corporal punishment. *Training manual to end violence in schools.*

Mizala, A., Martínez, F., & Martínez, S. (2015). Pre-service elementary school teachers' expectations about student performance: How their beliefs are affected by their mathematics anxiety and student's gender. *Teaching and Teacher Education*, 50, 70e78.

Montenegro, A. (2017). Understanding the concept of student Agentic engagement for learning. *Colombian Applied Linguistics Journal*, 19 (1), 117-128. doi: http://dx.doi.org/10.14483/calj.v19n1.10472.

Muganga, L., & Ssenkusu, P. (2019). Teacher-centered vs. student-centered: An examination of student teachers' perceptions about pedagogical practices at Uganda's Makerere University. *Cultural and Pedagogical Inquiry*, 11(2), 16-40.doi: https://doi.org/10.18733/cpi29481

Mugizi, W. (2019). Constructing a Conceptual Framework for Quantitative Data Analysis in Social Science Research. *Interdisciplinary Journal of Education, 2*(1), 74-88. https://doi.org/10.53449 /ije.v2i1.77

Mugizi, W. (2021). University infrastructure quality and students engagement in a South Western private university, Uganda. *Interdisciplinary Journal of Education Research,* 3(2), 98-107. Https://doi.org/10.51986/ijer-2021.vol3.02.10

Mugizi, W., Odetha, A. K., Ogaga, A. D., & Kanyesigye, J. (2021). Student-centred pedagogical approach and student engagement at a private university in western Uganda. *Education Journal*. doi: 10.11648/j.edu.20211005.14

Mugizi, W., Rwothumio, J. & Kanyesigye, J. (2020). Teacher-centred pedagogical approach and student engagement at a private university in Western Uganda. *Journal of Educational Research and Reviews,* doi: 10.33495/jerr_v8i8.20.154 ISSN: 2384-7301

Mulqueeny, K., Kostyuk, V., & Baker, R. S. *(2015).* Incorporating effective e-learning principles to improve student engagement in middle-school mathematics. *IJ STEM Ed***2,** 15 (2015). https://doi.org/10.1186/s40594-015-0028-6

Newmann, F.M. (1992). Student Engagement and Achievement in American Secondary Schools.

Nguyen, T. D., Cannata, M., & Miller, J. (2018). Understanding student behavioural engagement: Importance of student interaction with peers and teachers. *The Journal of Educational Research*, 111(2), 163-174. https://doi.org/10.10 80/00220671. 2016. 1220359.

Odama, S., & Ezati, B. A. (2017). Parents' contributions towards education process and variations in school performance indices (SPI) in Uganda certificate of education (UCE) examinations in central and northern Uganda. *Research Journal of Education,* 3(8), 81-96

Okaka, T. W. (2021). Eliminating drug substance use for inclusive community health and

Olivier, E., Galand, B., Hospel, V., & Dellisse, S. (2020). Understanding behavioural engagement and achievement: The roles of teaching practices and student sense of competence and task value. *British Journal of Educational Psychology*, 1-23. doi: 10.1111/bjep.12342.

Olusegun, B. S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *IOSR Journal of Research & Method in Education,* 5 (6), 66-70.

Omara, P. (2020). Strengthening school-community partnership for quality education in seed secondary schools in West Nile Region, Uganda. *African Journal of Education, Science and Technology*, *6*(1), 72-81. https://doi.org/https://doi.org/10.2022/ajest.v6i1.465 10.1111/bjep.12 342.

Omer, A. A., & Abdularhim, M. E. (2017). The Criteria of Constructive Feedback: The Feedback that counts. *J. Health Specialties,* 5(1):45-48. http://www.thejhs.org/text.asp?2017/5/1/45/198798.

Omomia, O. A., Omomia, T. A. (2014). Relevance of Skinner's Theory of Reinforcement on effective school evaluation and management. *Eur. J. Psychol. Stud.,* (4):174-180. doi: 10.13187 / Ejps.2014.4.174.

Overskeid, G. (2018). Do we need the Environment to explain Operant Behaviour? *Front. Psychol.,* 9(373):1-6. doi: 10.3389/Fpsyg.2018.00373

Palinkas, L.A. et al. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research,* 42,533-544. https://doi.org/10.1007/s10488-013-0528-y

Paolini, A. (2015). Enhancing Teaching Effectiveness and Student Learning Outcomes. *Journal of effective teaching*, 15(1), 20-33.

Pedler, M., Yeigh, T., & Hudson, S. (2020). The teachers' role in student engagement: A review. *Australian Journal of Teacher Education*, 45(3). http://dx.doi.org/10.14221/ajte.2020v45n3.4

Pérez-Ibáñez, I. (2018). Dewey's thought on education and social change. *Journal of Thought*, 52(3-4), 19-31.

Philomena, O. C., & Onwioduokit, F. A. (2012). Relative effectiveness of classroom interaction techniques on students' participation in Rivers State, Nigeria. *Journal of Educational and Social Research*, 2(10), 81-81.

Piaget, J. (1936). *Origins of intelligence in the child.* London: *Routledge and Kegan Paul.*

Pitzer, J. & Skinner, E. (2016). Predictors of changes in students' motivational resilience over the school year: the roles of teacher support, self-appraisals, and emotional reactivity. *International journal of behavioural development*, retrieved April 25, 2022, https://journals.sagepub.com/doi/full/10.1177/0165025416642051

Qualitative Research in Psychology, 3 (2). 77-101 http://dx.doi.org/10.1191/1478088706qp063oa

Qudsyi, H., Wijaya, H. E., & Widiasmara, N., & Nurtjahjo, F. E. (2018). Contextual teaching-learning method to improve student engagement among college students in cognitive psychology course. *International Conferences on Education, Social Sciences and Technology*, 632-640. doi: https://doi.org/10.24036/XXXXX.

Ragland, W. A. (2012). The effect of teacher expectation and perception on student achievement in reading for third and fifth grade students". (762) Dissertations. https://aquila.usm.edu/dissertations/762)

Rao, M. (2018). Enhancing student engagement and immediate feedback with clickers and response cards. *International Journal of Innovation and Learning*, 24(1), 81-97.

Rao, X. (2018). University English for academic purposes in china: A phenomenological interview study. *Springer*. doi: 10.5861/ijrse.2014.729

Reeve, J. (2013). How students create motivationally supportive learning environments for themselves: The concept of agentic engagement. *Journal of Educational Psychology,* 105 (3), 579–595. doi: 10.1037/A0032690.

relationship between teachers' expectations and teachers' perceptions of student attributes. *Social Psychology of Education: An International Journal, 19*(2), 217–240. https://doi.org/10.1007/s11218-015-9326-6

Roza, A. S., Rafli, Z., & Rahmat, A. (2019). The Implementation of contextual teaching learning (CTL) to improve the students' speaking ability in Islamic studies course. *International Journal of Applied Linguistics and English Literature*, *8*(4), 45-50. https://doi.org/ 10.7575/aiac.ijal el.v.8n.4p.45

Sancho-Vinuesa, T., Escudero-Viladoms, N., & Masià, R. (2013). Continuous activity with immediate feedback: A good strategy to guarantee student engagement with the course. *The J. Open Dist. E-Learn*, 28(1): 51-66. doi:10.1080/02680513.2013.776479.

Schreiber, B., & Yu, D. (2016). Exploring student engagement practices at a South African university: Student engagement as reliable predictor of academic performance. *South African journal of higher education.* http://dx.doi.org/10.20853/30-5-593

Sedgwick, P. (2014) Cross sectional studies: Advantages and disadvantages. *BMJ*, 348, 2276. https:// doi.org/10.1136/bmj.g2276

Serin, H. (2018). A comparison of teacher-centered and student-centered approaches in educational settings. *International Journal of Social Sciences & Educational Studies*, *5*(1), 164-167.

Shernoff, D. J., Ruzek, E. A., & Sinha, S. (2017). The influence of the high school classroom environment on learning as mediated by student engagement. *School Psychology International*, 38(2), 201-218.

Shirali, G., Shekari, M., & Angali, K. A. (2018). Assessing reliability and validity of an instrument for measuring resilience safety culture in socio-technical systems. *Safety and Health at Work*, 9(3), 296-307. https://doi.org/10.1016/j.shaw.2017.07.010

Sikoyo, L. (2010). Contextual challenges of implementing learner-centred pedagogy: The case of the problem-solving approach in Uganda. *Cambridge Journal of Education,* 40 (3), 247-263. https://doi.org/10.1080/0305764x.2010.509315.

Skinner, B. F. (1953). *Science and human behaviour*. New York, USA: Free Press.

Soto, E. (2014). The impact of behavior-specific praise on student engagement". *Capstone Projects and Master's Theses*. 583. https://digitalcommons.csumb.edu/caps_thes/583

Stone, C., & Springer, M. (2019). Interactivity, connectedness and teacher-presence: Engaging and retaining students online. *Australian Journal of Adult Learning*, 59(2), 146-169.

Strati, A. D., Schmidt, J. A., & Maier, K. S. (2017). Perceived challenge, teacher support, and teacher obstruction as predictors of student engagement. *Journal of Educational Psychology*, 109(1), 131.

student engagement and academic performance. *International Journal of Educational Research*, 53 (12) 330-340 http://dx.doi.org/10.1016/j.ijer.2012.04.006

Sutton, J., & Austin, Z. (2015). Qualitative research: Data collection, analysis, and management. *The Canadian Journal of Hospital Pharmacy, 68,* 226-231. https://doi.org/10.4212/cjhp.v68i3.1456

Taber, K. S. (2018). The use of Cronbach Alpha when developing and reporting research instruments in science education. *Research in Science Education,* 48 (6), 1273-1296. doi 10.1007/S11165-016-9602-2.

Thomas, J. (2019). Managing behavior or promoting engagement. *University of Tasmania.* Retrieved July 4, 2023 from https://hdl.handle.net/102.100.100/23122679.v1

Timmermans, A. C., de Boer, H., & van der Werf, M. P. C. (2016). An investigation of the

Timmermans, A. C., Kuyper, H., & van der Werf, G. (2015). Accurate, inaccurate, or biased teacher expectations: Do Dutch teachers differ in their expectations at the end of primary education? *British Journal of Educational Psychology*, 85(4), 459-478.

Timmermans, A. C., Rubie-Davies, C. M., & Wang, S. (2021). Adjusting expectations or maintaining first impressions? The stability of teacher expectation of students mathematics achievement. *Learning and Instruction*, 75, 101483.

Tshomo, U., & Lhaden. (2015). Cultivating and improving classroom reinforcement strategies to optimise pre-service student teachers' learning. *J. Educ. Action Res,* 1(1):24-44.

Uribe, Y. E., Becerra, S. A., Ponce, F. P., & Vogel, E. H. (2019). A quantitative account of the behavioural characteristics of habituation: The sop model of stimulus processing. *Front. Psychology,* 10(504): 1-10. https://doi.org/10.3389/fpsyg.2019. 00504.

Vagele-Kricina, A. (2021). E-constructivism: a ready response to the challenges of e-learning. In *Practical Perspectives on Educational Theory and Game Development.* (pp. 130-147). *IGI Global.*

Vera, I., Udodirim, I., Ikechukwu, B. & Okoro, C. (2020). Social constructivism: Implications on teaching and learning. *British Journal of Education.*

Virtanen, T. E., Lerkkanen, M., Poikkeus, A. & Kuorelahti, M. (2015). The relationship between classroom quality and students' engagement in secondary school, *Educational Psychology*, 35:8,963-983,doi: 10.1080/01443410.2013.822961

Waite-Stupiansky, S. (2017). Jean Piaget's constructivist theory of learning. In *Theories of Early Childhood Education.* (pp. 3-17). *Routledge.*

Wang, X., & Cheng, Z. (2020). Cross-sectional studies: strengths, weaknesses, and recommendations. *Chest*, *158*(1), 65–71. https://doi.org/10.1016/j.chest.2020.03.012

Wara, E., Aloka, P. J., & Odongo, B. C. (2018). Relationship between emotional engagement and academic achievement among Kenyan secondary school students. *Academic Journal of Interdisciplinary Studies*, 7(1), 107.

Watson, J. B. (1913). Psychology as the behaviorist views it. *Psychological review*, *20*(2), 158-177. doi: 10.1037/ h0074428.

wellness in Arua city, northwestern Uganda to achieve SDG 2030 agenda in Uganda [PowerPoint slides]. *5th East and Central African Regional Conference of Psychology*, doi: 10.13140/rg.2.2.15726.54088 https://www.researchgate.net/publication/353644053

Yu, R. & Singh, K. (2016). Teacher support, instructional practices, student motivation, and mathematics achievement in high school. *The Journal of Educational Research.* 111. 1-14. 10.1080/00220671.2016.1204260.

Zepke, N. (2015). Student engagement research: Thinking beyond the mainstream. *Higher Education Research & Development*, 34:6, 1311-1323. doi:10.1080/07294360.2015.1024635 https://doi.org/10.1080/07294360.2015.1024635

Zhang, Z. V., Hyland, K. (2018). Student engagement with teacher and automated feedback on l2 writing. *Assessing Writing*, 36:90-102. https://doi.org/10.1016/j. asw.2018. 02.004.

Zhou, M., & Brown, D. [Eds.]. (2015). *Educational learning theories*. https://oer.galileo.usg.edu/cgi/viewcontent.cgi?article=1000&context=education-textbooks

Zohar, A., & Barzilai, S. (2015). Meta-cognition and teaching higher order thinking in science education: Students' thinking, teachers' knowledge, and instructional practices. In R. Wegerif, L. Li & J. Kaufman (Eds.), *Routledge international handbook of research on teaching thinking* (pp. 229-242). Routledge.

Appendices

Appendix A: Table for Determining Sample Size for Given Population

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	102	1800	317
45	40	290	105	1900	320
50	44	300	109	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	198	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note: N = population size S = sample size Source: Krejcie and Morgan (1970).

Appendix B: Self-administered Questionnaire for Students

Kyambogo University,

P. O. Box 1,

Kyambogo, Kampala

27th June 2022

Dear respondent

I am a student of Kyambogo university Kampala currently working on a project "Constructivist, behaviourist teaching approaches and student engagement in secondary schools in Arua City, Uganda". The information requested is needed for academic purposes only. Your participation in this study is voluntary, however it is required. I respectfully request that you agree to participate in this study in order for the project to be successful. Information you will provide will be kept confidential by ensuring anonymity.

Yours faithfully

.....

Hamimu Siraji Onzi

Section A: Demographic Characteristics of Respondent

Tick in the appropriate box

1. Sex

Male	Female
1	2

2. Age

Below 14 years	14-18 years	Above 18 years
1	2	3

3. Class

S1	S2	S3	S4
1	1	3	4

Section B: Student Engagement

This section presents questionnaire items on Student Engagement (DV). A five-point Likert scale is used to Scale the question items in the measure. You are cordially asked to use the scale to describe how you feel about your participation. (Where 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree).

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

BE	**Behavioural Engagement**	**1**	**2**	**3**	**4**	**5**
BE1	In school, I try my best to do well					
BE2	I work as hard as I can in class,					
BE3	I participate in class activities when I am in class					
BE4	I pay attention in class when my teachers are teaching					
BE5	I ensure I do my work when I am in class					

BE6	In school, I make sure I do everything possible to succeed					
BE7	I concentrate on what is to be learned when I am in class,					
BE8	I go over something again and again until I understand it					
BE9	I am an active participant in school activities such as sports day and clubs					
BE10	in school activities such as sports day or club, I volunteer to help					
CE	**Cognitive Engagement**	**1**	**2**	**3**	**4**	**5**
CE1	I spare a lot of time for my studies and homework					
CE2	While in class, I pay attention to the lesson					
CE3	I complete my homework on time.					
CE4	I work as hard as I can at my tasks (assignments)					
CE5	I do my best in class					
CE6	Even when the tasks are hard, I do not give up trying					
CE7	While learning in class, I make an effort to do my best					
CE8	when working on my tasks, I always try my best					
CE9	I read my notes even when there are no upcoming exams					
AE	**Affective Engagement**	**1**	**2**	**3**	**4**	**5**
AE1	I have interest in learning					
AE2	To me, what we learn at school is interesting					
AE3	I like what I am learning in school					
AE4	Learning new things in class is enjoyable to me					
AE5	Learning is very interesting at school					
AE6	I like my school very much					
AE7	This school makes me happy more than any other school					
AE8	I look forward to going to school every morning					
AE9	I am happy to be a student in this school					
AGE	**Agentic Engagement**	**1**	**2**	**3**	**4**	**5**
AGE1	During class, I make sure that teachers help me to understand what they are teaching					
AGE2	I make an effort to answer teacher's questions when asked in class					

AGE3	I ask teacher questions inside and outside class in order to understand					
AGE4	If there is something I need to understand, I make sure I let my teachers know					
AGE5	If there is something I have not understood from teachers, I ask fellow students to explain to me					
AGE6	I actively participate in class discussions at school					
AGE7	When my classmates have different opinions on something, I make an effort to make them understand what I am thinking					

Section C: Constructivist Teaching Approaches

This section presents questionnaire items on constructivist teaching approaches (IV). Please let us know how you feel about constructivist teaching approaches where; (1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree).

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

AL	**Active Learning**	**1**	**2**	**3**	**4**	**5**
AL1	Teachers involve us in self-guided learning activities					
AL2	Teachers involve us in discussions while in class					
AL3	At the end of every lesson, teachers give questions to answer					
AL4	As we learn in class, teachers allow us to consult one another					
AL5	In order to help us understand the material we learn, teachers give us the materials and the sources of the materials					
AL6	We are given regular assignments by our teachers					
AL7	Sometimes teachers involve us in discussions					
AL8	Teachers make us to carry out research beyond the notes they give us					

CL	**Collaborative Learning**	**1**	**2**	**3**	**4**	**5**
CL1	We are helped by teachers to form study groups					
CL2	Teachers make us exchange ideas in study groups					
CL3	Teachers make sure that groups remain focused on learning					
CL4	Each study group is required to present to the whole class					
CL5	Teachers tell us the benefits of working in groups					
CL6	Teachers give groups opportunities to present and discuss					
CL7	Learning in groups is effective because we learn from one another					
CL8	In study groups, each member has the opportunity to contribute during discussions					
TS	**Teacher Support**	**1**	**2**	**3**	**4**	**5**
TS1	Teachers put in effort to ensure that we perform better					
TS2	Teachers spare time to help us to get better grades					
TS3	Teachers are helpful and ready to help us whenever we need academic support					
TS4	Teachers challenge me to think about my future goals					
TS5	There are teachers who believe in me and know that I am a hard worker					
TS6	Most teachers in this school care about what happens to students					
TS7	Some teachers teach extra lessons to help students catch-up					
TS8	Teachers pùt in effort to ensure that we succeed					
COL	**Contextual Learning**	**1**	**2**	**3**	**4**	**5**
COL1	My teachers ensure self-directed learning					
COL2	My teachers stimulate thinking, analysis and reasoning					
COL3	My teachers activate my prior knowledge					
COL4	My teachers teach from the known to the unknown					
COL5	The knowledge taught in class is realistic					
COL6	My teachers are eqùal to my level of knowledge helping me to					

	understand					
COL7	The knowledge taught in class is relevant to my needs					
COL8	My teachers arouse my curiosity during learning					

Section D: Behaviourist Teaching Approaches

This section presents questionnaire items on behaviourist teaching approaches (MV). You are kindly requested to indicate how you feel about behaviourist teaching approaches using the scale (where 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, and 5 = strongly agree).

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

IF	**Immediate Feedback**	**1**	**2**	**3**	**4**	**5**
IF1	The teachers immediately make us aware of our strengths					
IF2	The teachers provide us with immediate concrete feedback on activities we have performed					
IF3	The teachers immediately alert us about gaps in our learning					
IF4	The teachers provide support when we meet difficulties in given task					
IF5	The teachers immediately remind us about weaknesses in our knowledge					
IF6	The teachers provide immediate feedback on activities we have performed					
IF7	The teachers immediately make us aware of our weaknesses					
IF8	The teachers immediately correct mistakes by demonstrating how different activities are correctly performed					
CP	**Continuous Practice**	**1**	**2**	**3**	**4**	**5**
CP1	Teachers have encouraged me to revise regularly					
CP2	Teachers quite often give assignments or tests					
CP3	Teachers help us to revise assignments and to make corrections					

CP4	Teachers have helped me to view my problems in work as opportunity to learn					
CP5	Teachers discuss my mistakes with me in order to learn from them					
CP6	Teachers guide me on how to learn from other students					
CP7	Teachers always guide me on how future study tasks should be carried out					
CP8	The teachers allow me time to continuously carry out learning					
RI	**Reinforcement**	**1**	**2**	**3**	**4**	**5**
RI1	Teachers praise students who do well during class					
RI2	Teachers display to the whole class good work of students					
RI3	Teachers question behaviour of students'					
RI4	Teachers correct students who act inappropriately					
RI5	Teachers identify undisciplined students for warning					
RI6	Teachers carry out whole class punishment					
RI7	Teachers criticise students when they perform poorly					
RI8	Teachers carefully evaluate whatever students do in class					
RI9	A warm and responsive attitude from teachers make me participate in giving my contributions in class					

The End

Thank you very much for taking part in this study.

Appendix C: Interview Guide for Teachers

1. How do students behave when they are interested in what they are learning?
2. In what ways can teachers make students to be active in class?
3. In what ways do teachers encourage collaboration among students?
4. How do teachers help students who need teacher support in teaching and learning?
5. In what ways do teachers use contextual learning in teaching and learning?
6. How do teachers give feedback to students in the school?
7. In what ways do teachers use continuous practice in teaching and learning?
8. How do teachers use reinforcement to achieve desired out comes from students?

Appendix D: Introductory Letter

KYAMBOGO UNIVERSITY

P. O. BOX 1 KYAMBOGO
Tel: 041 - 4286792 Fax: 256-41-220464
Website :www.kyu.ac.ug, Email: drgt@kyu.ac.ug
Directorate of Research and Graduate Training
Office of the Director

Date: 05/07/22

TO WHOM IT MAY CONCERN

RE: HAMIMU SIRAJI ONZI

Dear Sir/Madam,

This is to introduce to you the above named student Reg: No 19/U/GMEF/18628/PA pursuing MASTER OF EDUCATION, Department of FOUNDATIONS & EDUC' PSYCHOLOGY Kyambogo University.

~~She~~/he intends to carry out research on CONSTRUCTIVIST, BEHAVIORIST TEACHING & STUDENT ENGAGEMENT in partial fulfillment of the requirements for the award of MASTER OF EDUCATION IN EDUCATIONAL FOUNDATIONS

The purpose of this letter therefore is to request you to grant him/her permission to carry out his/her study in your institution.

Any assistance rendered to him/her will be highly appreciated.

Yours sincerely,

Prof. Bosco Bua
AG. DIRECTOR

KYAMBOGO UNIVERSITY
★ 0 JUL 2022 ★
DIRECTOR
DIRECTORATE OF RESEARCH AND GRADUATE TRAINING

Appendix E: Plagiarism Test Report

CONSTRUCTIVIST, BEHAVIOURIST TEACHING APPROACHES AND STUDENT ENGAGEMENT IN SECONDARY SCHOOLS IN ARUA CITY, UGANDA

by Siraji Onzi

Submission date: 16-Jul-2023 05:49AM (UTC+0100)
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Character count: 188760

CONSTRUCTIVIST, BEHAVIOURIST TEACHING APPROACHES AND STUDENT ENGAGEMENT IN SECONDARY SCHOOLS IN ARUA CITY, UGANDA

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