



Assessing Secondary School Student Engagement with Schooling in two Coastal Regions of Tanzania

An Empirical Study in the Context of Equality of Educational
Opportunity

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ABSTRACT

The study investigated student engagement with schooling in relation to students' individual characteristics and school contextual variables in order to determine the equality of educational opportunity available to secondary school students. The study looked at government secondary school students from randomly selected schools in four districts in the Mtwara and Dar es Salaam regions. Survey data from 1031 students was analysed using percentages, the independent t-test, one-way ANOVA and cross-tabulation.

The study found high level of student engagement among all students, although some discrepancies appeared when students were sorted according to gender, age group, class level, school category, and school location. Female students showed a higher level of engagement than male students, students aged 15 and below showed lower engagement than students in other age groups, students in form two showed lower engagement than students in other forms and students from Mtwara showed higher engagement than students from Dar es Salaam. Students in normal secondary schools (NSS) demonstrated higher behavioural engagement than those in secondary schools with advanced level education (SSAL), across all engagement constructs. Other engagement constructs showed similar levels of engagement, implying that students take advantage of educational opportunities presented to them to an equal extent; this in turn signifies that there is equality of educational opportunity among these students. Student engagement is thus a means of understanding students' participation across the whole of their experience of schooling, and also a means of realizing equality of educational opportunity.

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ABBREVIATIONS AND ACRONYMS

ACSEE	Advanced Certificate of Secondary Education Examination
A-Level	Advanced Level
AE/NFE	Adult Education and Non-Formal Education
ANOVA	Analysis of Variance
AUSSE	Australian Survey of Student Engagement
BRN	Big Results Now
CSEE	Certificate of Secondary Education Examination
DEO-SE	District Education Officer responsible for Secondary Education
EEO	Equality of Educational Opportunity
EP4R	Education Programme for Results
ESDP	Education Sector Development Programme
ETP	Education and Training Policy
GCR	Gross Completion Rate
GER	Gross Enrolment Ratio
HDOS	High Drop Out of School
HSSSE	High School Survey of Student Engagement
IAE	Institute of Adult Education
ICT	Information and Communications Technology
ISSE	Irish Survey of Student Engagement
LDOS	Low Drop Out of School
MCDGC	Ministry of Community Development, Gender and Children
MoEVT	Ministry of Education and Vocational Training
MoEST	Ministry of Education, Science and Technology
NCR	Net Completion Rate
NER	Net Enrolment Ratio
NGO	Non-Governmental Organization
NECTA	National Examinations Council of Tanzania
NSS	Normal Secondary Schools
ODL	Open Distance Learning programme
O-Level	Ordinary Level
PCA	Principal Component Analysis
PISA	Programme for International Student Assessment
PMO-RALG	Prime Minister's Office for Regional Administration and Local Government
PSLE	Primary School Leaving Examination
SSA	Sub Saharan Africa
SEDP	Secondary Education Development Programme
SEMP	Secondary Education Master Plan
SEQUIP	Secondary Education Quality Improvement
SES	Socio Economic Status
SPSS	Software Package for Statistical Analysis
SSAL	Secondary Schools with Advanced Level education
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization

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CHAPTER ONE

1. INTRODUCTION

Secondary education has become an increasingly central policy concern for developing countries, particularly for those that have had success in universalizing primary education. Tanzania is among the countries that are grappling with the question of how to provide skills and knowledge either to enable adolescents to progress to tertiary education or to ensure a smooth transition to the world of work for students for whom the secondary level represents the final stage of education. A more profound issue is how to ensure every secondary school student participates proactively in the acquisition of a secondary education and achieves a desirable outcome (URT, 2000a). Improving secondary school students' engagement with their schooling has recently been found to be one of the best ways to encourage them to access and participate in the secondary education on offer (Veiga et al., 2016). Effective participation enables students obtain their education properly, and this in turn leads to better understanding of equality of educational opportunity (EEO). This study therefore attempts to assess the engagement of students with their schooling in government (public) secondary schools in order to assess EEO in Tanzanian secondary education.

1.1 Background

Since 2004, Tanzania has been widening its young people's access to secondary education in order to improve EEO for those completing primary education. Through the department then known as the Ministry of Education and Vocational Training (MoEVT), the Tanzanian government promoted such broader access by opening a large number of government secondary schools in every ward of each district in order to cater for increased enrolments (URT, 2004; 2010). As a result, enrolment in government secondary education almost doubled between 2001 and 2004, and more than tripled from 2004 to 2009 (*ibid*). Despite these successes, there have been a number of challenges, including poor performance in examinations; uneven teacher deployment; learning outcome inequalities in different schools, with poor participation rates and pass rates for girls, especially in science and mathematics, and community secondary schools doing consistently poorly; insufficient infrastructure; lack of, or non-use of, laboratories in most schools, resulting in students studying science on a purely theoretical basis, and most of them doing poorly (URT, 2010;

2012b). There have also been issues with teacher-centred classrooms, with students relying heavily on the teacher and old notes; and ineffective use of classroom time (*ibid*).

Whilst these challenges became evident in many different government secondary schools as attempts were made to improve student access and participation in secondary education, a number of researchers and educators also recognized that a large proportion of students were struggling to complete their education. Many students were found to have very little knowledge of how to approach difficult tasks in different subjects. For instance, Mabula's (2012) and Kihwele's (2014) studies of students in government secondary schools in the Morogoro region found that many students were not acquiring sufficient knowledge and skills in science subjects. Likewise, in their study of a government secondary school in the Mwanza region, Ntumva and Rwambali (2013) found that students' competence was low in many subjects, particularly English. Alex Barakabitze et al. (2015) also found that many students in the government secondary schools they studied did not have sufficient Information and Communication Technology (ICT) knowledge and skills because they were less mentally involved with their learning. In these contexts, students were attending schools and participating in subject lessons, but insufficient learning was taking place.

Insufficient learning has been shown to result from stress and anxiety towards certain concepts, content, lessons and subjects as whole (Makewa et al., 2013; Hilliard, 2014). This eventually leads to the development of negative attitudes and poor perceptions of the concepts, content, lessons and subjects in question. Ongoing negative attitudes and poor perceptions on the part of students in turn act as a barrier to further learning, especially when such students realize that they may not perform well academically. Kihwele (2014) found that many students have poor perceptions of and attitudes towards subjects, especially where they have already failed to achieve in those subjects. Poor perceptions of and attitudes towards concepts, content, lessons and subjects can also cause students to feel less positive towards their teachers, fellow students, and school, and attribute their lack of sense of belonging to their schools (Masamalo, 2017). This leads students to detach from their schooling and to lower levels of participation in both academic and non-academic activities. Some students may display disruptive behaviours such as truancy, and bullying, and students may ultimately drop out of school altogether. Where students do complete their schooling, most do so with the minimum required experience (knowledge, skills and attitude), and this generally becomes obvious in poor academic performance.

Despite the importance of secondary education, Tanzania has given relatively little attention to improved retention, progression and course completion rates; there have been few strategies designed to improve students' investment of time and effort in learning, increase their involvement in academic and social activities, or cultivate a positive view of school and the experience of learning. National strategies typically assume that academic performance and EEO will improve automatically as a result of interventions focused on improving initial access and educational quality and equality (URT, 1995; 2010; 2014). Nevertheless, improving progression in secondary school may not necessarily be solely a matter of improving the quality, equality and access of education; it is also important to consider and address the extent to which students are involved in, attached and committed to academic and social activities in school. This implies that students need to be fully engaged in the entire experience of schooling. A growing body of evidence suggests that schooling should not only focus on retaining students and ensuring they acquire appropriate knowledge and skills, but also on students' comfort with, internalization of and satisfaction with the experience of learning and learning materials (Eccles and Roeser, 2011; Willms, 2003; Roeser et al., 2009; Shernoff, 2013). Student engagement may therefore be the phenomenon that make both goals possible. Full engagement with schooling by students not only affects their learning and the whole of their time at school, it may also make a difference to their academic achievement. More importantly, student engagement will affect their life after schooling, as it will help students understand the value of their education and its relevance to their future. Failure to complete secondary school not only limits career opportunities open to students, it also represents a significant drain on the limited resources countries are able to commit to the provision of secondary education. Inadequate student engagement results in uneven distribution of education among individual students, among group of students, across school categories and between regions. The result is inequality of access and participation in education, inequality of educational outcomes and inequality of life chances.

1.2 Statement of the Problem

Recent research on secondary education highlights the importance of establishing high quality schools in order to promote access to, participation and attainment in secondary education (Holsinger et al., 2009; Komba and Bosco, 2015; Ngussa and Mdalingwa, 2017; URT, 2012b). Most researchers are concerned with raising the efficiency of schools by focusing on teaching skills and techniques, the quality of resources, equity issues, management and administration. They are also concerned with immediate educational outcomes such as school and student performance, measured amongst other things by grades, dropouts and

retention rates (Komba and Bosco, 2015; Ngussa and Mdalingwa, 2017; URT, 2012b). Policy makers also exercise direct control over some of these inputs and outputs by introducing incentives, improving the teaching force, improving the relevance of the curriculum and influencing outcomes in terms of student grades. Significant emphasis is put on the relationship between directly measurable inputs into and outputs from the educational process, as many inputs correlate directly with certain outputs such as the educational achievement of individual students as measured at discrete points in time. On the other hand, however, less weight is given to the influence of other factors, in particular aspects such as attitude and perception, which are the result of student engagement. The majority of researchers and policy makers place less stress on the influences of these factors, despite their having a continuous and cumulative impact. Moreover, the important impact exerted on educational processes by these factors is scarcely identified by most researchers and policy makers.

1.3 Purpose of the Study

The purpose of this study is to assess secondary school students' engagement with schooling in two coastal regions of Tanzania (Dar es Salaam and Mtwara) by considering the demographic characteristics of students and the contextual variables of schools in order to investigate EEO in Tanzania. More specifically, the study aims to uncover the extent of student engagement with schooling in the selected schools in these regions and to explore the impact of different student characteristics on student engagement. Furthermore, the study aims to determine student engagement levels; to analyse differences in engagement levels between Normal Secondary Schools (NSS) and Secondary Schools with Advanced Level secondary education (SSAL); and to identify the impact of differences between schools and regions on student engagement in the areas studied. Finally, this study will assess EEO goals for Tanzanian secondary education in relation to the results. The overall aim is to create a framework for the assessment of student engagement with schooling so as to answer the research questions presented below.

1.4 Research Questions

Consistent with the purpose of this study and the aims outlined above, this study is guided by the following research questions:

Main research question

How do secondary school students engage with schooling in two coastal regions of Tanzania (Dar es Salaam and Mtwara)?

Specific questions

- (i) To what extent are students engaged with schooling in the selected schools?
- (ii) Are there differences between students' characteristics in relation to their engagement with schooling?
- (iii) What are the emotional, behavioral and cognitive engagement levels of all secondary school students at the selected schools?
- (iv) What differences are there in levels of emotional, behavioural and cognitive engagement between the SSAL and NSS students?
- (v) Are there differences in student engagement with schooling within the study area?
- (vi) How can the findings of this study pertaining to student engagement be related to EEO?

1.5 Conceptual Framework

This conceptual framework for this study was drawn from the work of Huitt (2003) and Akey (2006). It posits that the outcomes of schooling are attributable to a number of factors, including: student inputs, school inputs, student engagement, student achievement and school achievement. However, the present study looked more closely at the factors influencing student engagement: students' individual characteristics (one aspect of student input) and contextual variables for schools (one aspect of schools' input). This research primarily addressed students' individual characteristics and school contextual variables that lead to optimal student engagement. However, it also considers the aspects of student engagement (attitudes and perceptions) and engagement dimensions (emotional, behavioural, and cognitive) (see Figure 1) as ways of measuring student engagement. As figure 1, indicates, it is hypothesized that (1) different individual characteristics (gender, age, and school class level) contribute to different levels of student engagement. These differences are indicated by the attitudes and perceptions of students and their engagement dimensions; (2) differences in schools' contextual variables (setting, characteristics, academic subjects, examinations, and academic achievement) also contributed to different levels of student engagement, and the attitudes and perceptions of students, along with their engagement dimensions, act as indicators for variations in engagement. Variations in the level of student engagement

and engagement dimensions determine EEO as defined by equality of educational participation (in the form of the exploitation of educational opportunity by students or the effectiveness of schools) and equality of educational outcomes (in the form of student cognitive, attitudinal and psychomotor achievement; or schools' achievement in terms of academic performance, resource usage, subject performance, etc.). Determining the level of EEO in terms of equality of educational outcomes, however, falls outside the scope of this study.

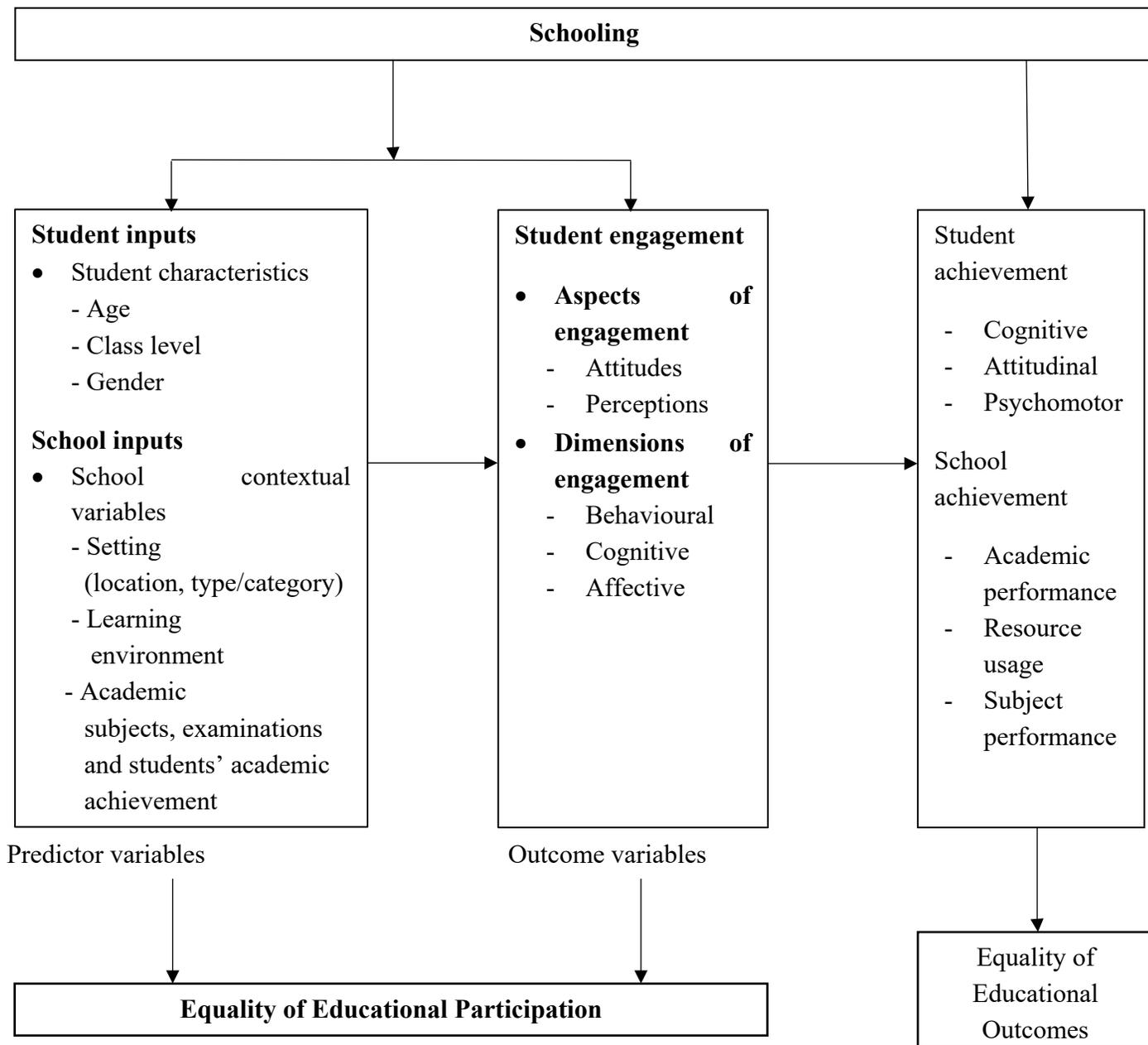


Figure 1: Conceptual model of the influence of student characteristics and school contextual variables on student engagement (adapted from Akey, 2006 and Huitt, 2003).

1.6 Design and Procedures

The survey study was conducted in 16 schools in two coastal regions of Tanzania, namely Dar es Salaam and Mtwara. Cluster, purposive and random sampling procedures were used to ensure that the study looked at a representative proportion of population subgroups. All schools studied were government secondary schools from a mix of socioeconomic backgrounds and levels.

The survey design provided methodological procedures for determining the type of data to be collected and collection techniques. In line with Lehman's definition (2017) of data as a collection of scores obtained when subjects' characteristics and/or performance are analysed, data from all sampled students from the 16 schools participating in the study was collected, cleaned and analysed. All collected data were compiled away from the schools to avoid their being identified by those not participating in the research. The researcher sought assistance from the administrative service for each school district.

Information from the survey was analysed using SPSS IBM 25 statistical software. Descriptive and inferential statistics were then obtained to enable further description of the findings, inferences and explanations arising from the discussion.

1.7 Significance of the Study

This study is considered significant in several ways and will benefit a range of groups.

It represents a meaningful addition to current literature on student engagement with schooling at secondary level and makes a substantial contribution to the discourse on the concept of student engagement with schooling and the associated issues. It also has wide-ranging relevance for the field of education in general.

The study is designed to provide knowledge to researchers. The data utilized will supplement the currently limited data on student engagement in Tanzania, and specifically in relation to the coastal regions of Dar es Salaam and Mtwara. The research methods utilized will enable more in-depth analysis of the predictors of student engagement. Furthermore, the broad quantitative analysis undertaken in this study will allow specific aspects of student engagement to be easily highlighted for further study and analysis. The study will deepen the research on student engagement in coastal zone secondary schools and enhance connectivity with EEO factors. In particular, it bridges the research gap by examining the influence of

student engagement on student characteristics and school contextual variables, particularly in the area under consideration. This study should therefore provide the basis for further research on student engagement with schooling in different coastal zone regions, and in other regions of Tanzania.

The study will provide greater insight for students. As most of the students go through adolescence during their time at secondary school, they will benefit from knowing how their different personal characteristics may lead them not to engage fully with their schooling. The study results will therefore assist students in tackling many issues they face during adolescence, such as teenage absences, dropping out, failing courses and low assessment grades. This will improve students' understanding of how to enjoy their schooling, complete their secondary educational cycle and improve their academic performance. It will also help students to view learning as a lifelong process, one that they will continue after their secondary schooling.

The study is expected to benefit educators and other educational providers, especially teachers. It will help them to determine which teaching techniques are best suited to engaging students in the process of learning. It will also help them understand the immediate impact of their teaching techniques on learners' involvement, wellbeing and thinking, and enable them to adapt the learning process for each individual student. It will also enable teachers to help students identify the connection between their schools, their individual characteristics, and the expected outcomes of their secondary education. In addition, it will encourage educators and educational providers to attend not only to teaching methods and the formal curriculum but also to the wider context of students' relationship with their schooling (Stipek, 1996).

The study will contribute to policy, helping policy makers understand that failing to consider student engagement hinders the creation of a properly balanced learning environment where all students can explore their innate abilities. It will enable policy makers to identify shortcomings within educational policies and programmes caused by lack of consideration of student engagement, and ultimately preventing the training and education of sufficient workers to develop Tanzanian society. Such insights constitute an important framework for the improvement of the secondary school curriculum and educational processes in secondary schools. They will provide policymakers with a further opportunity to review secondary education policies and programmes and make student engagement a cornerstone of secondary school reforms, as is being done in developed countries such as Australia and America.

The study will benefit the National Examination Council of Tanzania (NECTA). It will encourage the Council to realize that it is important to focus not only on students' scores in tests and examinations as a means of making them focus on the relevant learning materials, but also on what actions are necessary to promote students' holistic development, and to understand that student engagement is one of the agents that promotes this, even after students have completed their secondary education.

The study is expected to provide relevant insights for the Tanzanian Ministry of Education Science and Technology (MoEST). It will help the Ministry to establish the links between student engagement with schooling and the current level of EEO in Tanzania, particularly in the coastal zone. This will allow regular evaluation of EEO in comparison with other Tanzanian regions, and with other Sub Saharan African (SSA) countries with similar trends in equalization of educational opportunities.

The study is expected to provide insights for school administrators, and district and regional educational officers. It illuminates the need for secondary schools to consider not only tangible educational resources such as infrastructure, facilities, and human and other resources, and intangible educational inputs such as curricula and teaching methods, but also what students put into their education. This will enable the influence of both types of input to be analysed in terms of their impact on eventual outcomes. The examination of outcomes can help with the development of processes to identify engagement and monitor the progress of individual students and programs.

The study will also benefit parents, by providing them with the support to consider not only their children's material needs but also their psychological needs. This in turn will help them act as catalysts for changes in their children's engagement with schooling, sometimes before children attend school.

1.8 Delimitation of the Study

The study reflects the coastal geography of Tanzania, and considers only two regions, Dar es Salaam and Mtwara, though it may also have relevance for other regions outside this zone. It purposely focuses on that area because historically, access to secondary education in the area was heavily influenced by colonial and missionary education. The study also focuses primarily on government secondary schools, although non-government secondary schools may also have been included. This is because it is assumed that these schools are the ones that admit children from the greatest variety of backgrounds, in terms of gender,

socioeconomic status, and location. In order to focus the study, this research also focuses on selected student characteristics, namely gender, school class level and age and; school contextual variables, namely school setting, school characteristics, academic subjects, examinations and academic achievements. The conclusions of the study are therefore limited to the study population within the selected regions under assessment. Any attempt to relate the findings of this study to another population of the same regions or other regions of Tanzania or other SSA countries must be undertaken with caution. For the purposes of generalization and comparison, further investigation is required with students at other schools outside this zone, in order to confirm or reject the conclusions of this study.

1.9 Definition of Terms

The following definitions were adopted by the researcher in order to clarify terms during the study. Some terms are also defined in the literature review; where that is the case, further sources are cited.

Attitude

An individual's predisposition towards either themselves, a person, place, thing, or event which in turn influences the individual's thought, feelings and action (Kpolovie et al., 2014). In this study, attitude refers to a student's low, medium or high predisposition towards their own identity, school settings and school characteristics, which determines the extent, level and/or nature of student engagement.

Access to Education

On-schedule enrolment and progression at an appropriate age, regular attendance, learning consistent with national achievement norms, a learning environment that is safe enough to allow learning to take place, and opportunities to learn that are equitably distributed (Lewin, 2015). In this study, access to education refers solely to access to secondary education, namely the ways in which the Tanzanian government, through the MoEST and other responsible bodies, ensures that students who are qualified for secondary education get the chance to acquire it in institutions authorized to provide it.

District

An area of a country, city or town, especially one that has particular features, which is divided from other areas for the purpose of organization, with official boundaries (Hornby, 2010). In Tanzania, districts are administrative areas within regions. Each district is sub-divided into divisions and further into local wards (URT, 1996). This study uses the term to refer to an administrative area within a region, which exercises administrative control over government secondary schools and other secondary schools.

Equality of Educational Opportunity (EEO)

Educational opportunity that is made available to all students on the basis of their abilities and irrespective of their origins, locality, race or sex. This definition and its meaning have been adopted from scholars such as Bowles and Gintis (2002), Burbules et al. (1982) and Hallinan (1988). The present study uses the term to refer to the fairness of processes enabling students from different backgrounds and social groups to participate equally and fully in the experiences of attending school, including the acquisition of learning in order to achieve a particular goal, such as academic success.

Engagement dimension

This is a conceptualization of student engagement that aims to enable more precise measurement of student engagement (Veiga, 2016). Specific dimensions of student engagement have been described and empirically validated, including cognitive, affective and behavioural engagement (Fredricks et al., 2012; Jimerson et al., 2003). For the purpose of this study, the dimensions of engagement are conceived as a three-part concept: emotional (affective), behavioural and cognitive engagement.

Normal Secondary School (NSS)

A secondary school that has been certified to provide secondary education to students who have registered for ordinary level secondary education only (URT, 2010). For the purpose of this study, the term refers to secondary schools with only four grades (i.e forms one, two, three and four) and distinct from the other category of ‘secondary school with advanced secondary education’.

Perception

Individuals’ personal interpretations of information from their own perspective, entailing interpretation of information in the brain in order to represent and understand the presented information or environment (Koth et al., 2008). This study takes perception to refer to students’ interpretation of their own identity, their school setting and the characteristics of their school. These interpretations are then categorized as being of low, medium or high relevance for determining the level of student engagement or the level of student engagement dimensions.

Provision of Education

This refers to the provision of the necessary educational facilities and resources to ensure students receive a quality education, for instance school infrastructure, materials such as stationery and textbooks, and personnel such as teachers and other staff (Veriava et al., 2017). The present study limits its conception of educational provision to the provision of educational facilities and resources (together with their

appropriate deployment) to secondary school students in order to ensure the straightforward acquisition of an appropriate secondary education.

Region

An area, especially a division of a country, which has its own customs and/or its own government (Hornby, 2010). In Tanzania, regions are administrative areas, and include cities. Each region is further subdivided into districts (URT, 1996). For the purpose of this study, a region refers to an administrative area within a country, under the umbrella of which districts exercise administrative control over government and other secondary schools.

School contextual variables

These are external factors arising from the school and its features that affect the whole of a student's school experience, including teaching and learning. They range from school characteristics (size, type, location) to infrastructure, length of school day, distribution and use of resources, and teaching and learning techniques (Nunez et al., 2013). This study takes school contextual variables to refer to factors that arise from the school and its features, but limits these factors to: settings (school category and location), learning environment (facilities and resources), subjects offered, examinations and students' academic achievement, all of which influence student engagement with schooling.

Schooling

Activity by students and teachers in the context of learning opportunities that are provided to students. It is conditioned by the social organization of classrooms, curricular tracks, and other instructional units within schools; and the actions of other stakeholders such as school boards, parents, politicians and government officials (Bidwell and Kasarda, 1980). Schooling is the combination of resources input (including of teaching and learning processes) and output. Resources are made up of schools, teaching materials, utility services, teachers, students and other authorities. Other inputs (although some researchers refer to teaching as mediation between inputs and outputs, and others regard it as an output) include indirect factors that play a major role in the accomplishment of the process of schooling as a whole, such as intangible factors (e.g. motivation, attitudes, and feelings). Outputs include the academic outcomes and achievements both of schools and their students (*ibid*). For the purpose of this research, schooling refers to students' whole experience at school, as determined and influenced by inputs and outputs, and with the aim of bringing about changes in students' capacities.

Secondary Education

The education children receive during their teenage years, although average entry and exit ages vary considerably between different countries. It is provided to students aged between 10 and 20, depending on the country in question. Some countries distinguish between lower secondary education (ten to fifteen-year-olds) and upper secondary education (sixteen to twenty-year-olds) (URT, 2010; URT, 2012b). For the purpose of this study, secondary education is defined as the educational stage following primary education and which prepares students to advance to tertiary education at college or university. Secondary education in Tanzania has two levels. The first level, ordinary secondary education level (O-Level), is designated as Forms 1 through 4. Upon completion of Form 4, all students who pass the Certificate of Secondary Education Examination (CSEE) are issued with a certificate. Selected students may progress to advanced secondary education level (A-level), Form 5 to Form 6, being awarded a certificate after completion of Form 6 if they pass the Advanced Certificate of Secondary Education Examination (ACSEE).

Secondary School

This term refers both to an organization that delivers secondary education and to the buildings where such education takes place (Connelly and Zheng, 2003). For the purpose of this study a secondary school is a public or private organization that is certified to provide secondary education in Tanzania.

Secondary School with Advanced Level Secondary education (SSAL)

A secondary school that has been certified to provide secondary education both to students who have registered to undertake ordinary level secondary education and to those who have registered for advanced level secondary education (URT, 2010). For the purpose of this study, secondary school with advanced level secondary education refers to a category of secondary school (as distinct from normal secondary school, see above) with six forms (that is to say, forms one, two, three, four, five and six).

Students' individual characteristics

The physical (gender, size, adolescence, height etc), academic (thinking, reasoning, etc), social (peer, friends, family, etc.) and emotional (high expectations, low self-esteem, feelings of omnipotence, desire for independence, popularity, feelings of love, reassurance from teachers etc) factors that may have an influence on students' experience of schooling (Murray et al., 2004). For the purpose of this study, the student characteristics considered as aspects of students physical, educational and developmental stages limited to age, class level and gender.

Student Engagement

The National Survey of Student Engagement defines this term as the “intersection of the time and energy students devote to educationally sound activities” (Conner and Fraser, 2011, pg. 54). Trowler (2010) also defines student engagement as being concerned with the interaction between the time, effort and other relevant resources invested by both students and their institutions, intended to optimize the student experience, enhance learning outcomes and student development; and the performance and reputation of the institution. For the purpose of this study, student engagement refers to the time, effort and resources (either internal or outward) invested by students, as indicated by their attitudes and perceptions and measured as high, medium or low on the Likert-type scale.

Zone

An area or stretch of land having a particular characteristic, purpose, or use, or subject to particular restrictions, or which has been divided for the purpose of organization ((Hornby, 2010). In Tanzania, zones are non-administrative areas. Within each zone there are categories of region and cities with particular geographical and ecological characteristics (URT, 1997). For the purpose of this study, a zone refers to a non-administrative area along the coast of Indian Ocean, solely in the regions of Dar es Salaam and Mtwara.

1.10 Thesis Structure

This thesis is divided into six intersecting chapters. Although each chapter is presented as a stand-alone section, the chapters are structured in such a way as to ensure the coherence of the overall argument.

The first chapter covers the groundwork for the study and sets the problem under study in context. It provides background to the study and a statement of the problem, and delineates the study’s purpose and research questions. It explains the conceptual framework of the study and the associated study design and procedures. It sets out the significance of the study, specifies delimitations and defines key terms both conceptually and operationally.

Chapter two provides information about secondary education in Tanzania, explaining the country’s history with regard to access to secondary education, the current situation and the challenges relating to access, provision and attainment, and the measures the country is taking to expand these three aspects. The chapter then connects these aspects with the principle of EEO and shows how student engagement with schooling

needs to be connected with EEO in order to tackle the challenges faced by secondary education in Tanzania in relation to access, provision and attainment.

Chapter three presents a literature review, first describing the nature of student engagement and how to measure it. The chapter then examines empirical and theoretical studies on the underlying issues and trends relating to student engagement with schooling, both globally and in Tanzania, focusing on the links between student individual characteristics and school contextual variables. Finally, the chapter sets out ways of promoting student engagement and identifies the research gap in the literature.

Chapter four analyzes the research methodology deployed in the study. The chapter discusses the research approach and research design adopted and the rationale for adopting it, and explains the procedure for obtaining a sample for the study, as well as the methods and data collection instruments used. Lastly, it discusses plans for data analysis and ethical issues related to the research field as a whole.

Chapter five reports the findings that emerged from the field data on the basis of the research questions and hypotheses formulated. It also includes detailed statistical analysis linked to the research questions and hypotheses.

Chapter six is dedicated to a discussion of the salient findings of this study, providing a detailed interpretation of the findings and a summary of the study as a whole. It also sets out the implications of the findings for educational research, practice and policy and further identifies the limitations of the research and its associated findings. Finally, it sets out the conclusions of the study along with recommendations for policy, action and further research.

CHAPTER TWO

2. SECONDARY EDUCATION IN TANZANIA, ITS RELATIONSHIP TO EEO AND STUDENT ENGAGEMENT WITH SCHOOLING

This chapter presents the state of secondary education schooling in Tanzania, starting with an analysis of the structure of secondary education and the status of access to and provision of secondary education from the precolonial era to the present day. The chapter then analyses how the expansion of educational provision and access to secondary education should be connected to the principle of EEO. It then describes how student engagement should be used to expand the provision of secondary education, and access to it, in order to meet EEO goals.

2.1 Secondary School Education in Tanzania

2.1.1 The Structure of Education in Tanzania

In Tanzania, the management of the education system falls within the remit of the MoEST. However, some responsibilities are assigned to other ministries such as the Prime Minister's Office for Regional Administration and Local Government (PMO-RALG), the Ministry of Community Development, Gender and Children (MCDGC), and various ministries with responsibility for technical education. Since 2008, the education system has been organized into four subsectors: Basic Education, comprising pre-primary, primary, secondary, teacher training, and adult and non-formal education (AE/NFE); Folk Education; Technical and Vocational Education and Training (TVET); and Higher Education (university and non-university).

The current structure of education in Tanzania has a 2-7-4-2-3+ configuration. It represents a slight adjustment of the post-colonial system of 7-4-2-3+ which was introduced in 1965 (see Figure 2). Both the 2-7-4-2-3+ and 7-4-2-3+ educational programs reflect the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Education for All 2000 – 2015 goals and the United Nations 2020 Millennium Development Goal. They were also designed to replace the dysfunctional colonial system of education that was incapable of achieving equity or incremental development of education in the country (URT, 2012b). This system of education as shown in Figure 2 consists of 2 years of pre-primary schooling, a compulsory 7 years of basic primary schooling, 4 years of ordinary secondary schooling (O-level), 2 years of advanced secondary schooling (A-level) and at least 3 years of higher education. Primary

education is free and compulsory by law and covers the 7 years of schooling for students aged 6 to 13. Secondary schooling (O level and A level) is required (but not compulsory) for children aged 14 to 21, followed by entry into tertiary schooling. The nation's educational policy also supports the provision of infrastructures to promote adult literacy for the adult population unable to attend school at the regular age. The program also supports enrolment of children in preschool education, although this is not a requirement for enrolment in primary education. The promotion of early childhood education has gained prominence in Tanzania, as the government has devoted additional resources to help children enrol in pre-primary education to promote literacy and basic education from an early age (Uwaifo and Uddin, 2009).

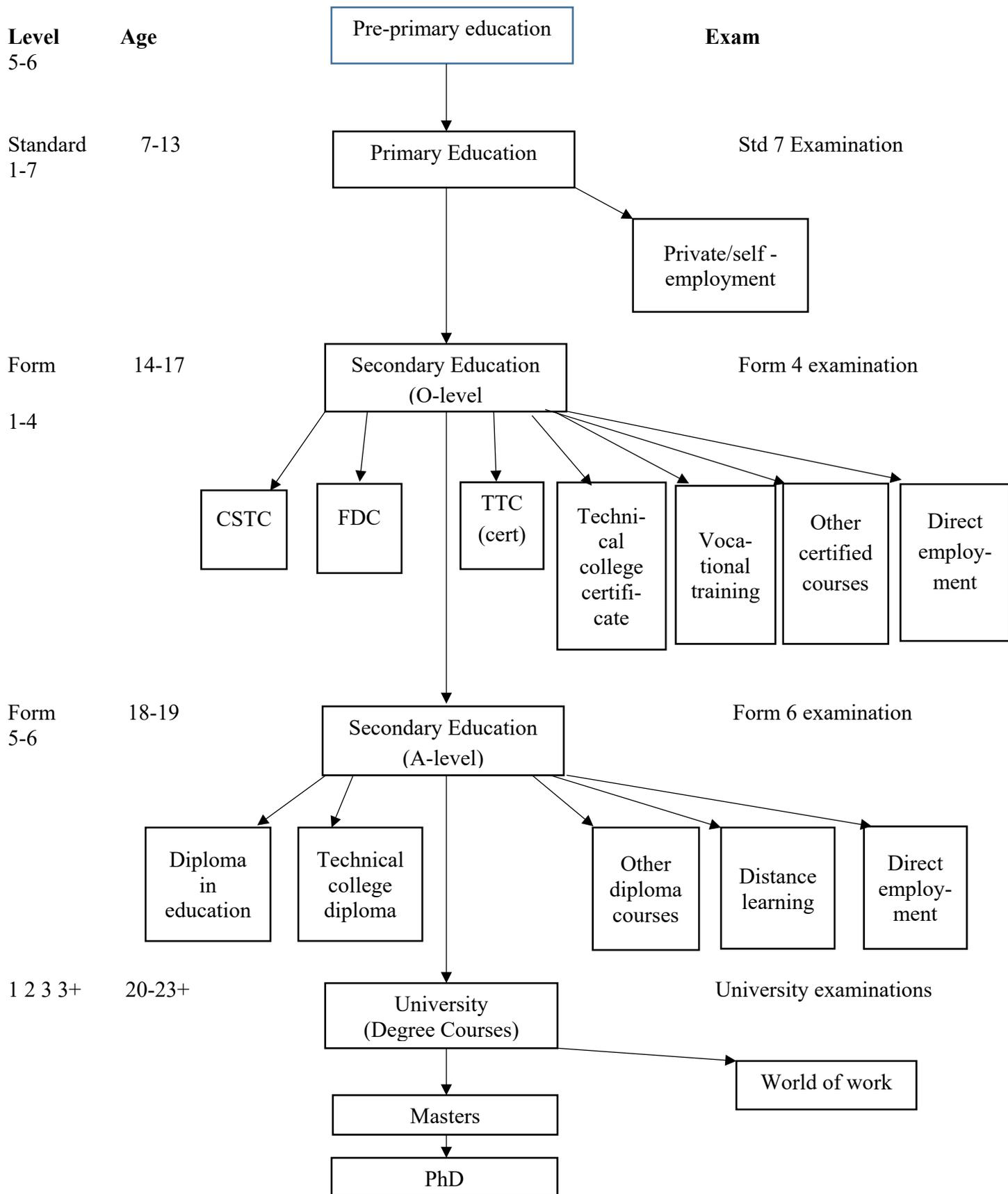


Figure 2: The Structure of the Education System in Tanzania. Source: URT (2000b)

2.1.2 The structure of Secondary Education in Tanzania

Secondary education comprises two cycles: Ordinary Level (O-Level) and Advanced Level (A-Level). Under the pressure of the growing number of pupils leaving primary school following the implementation of the fee-free primary education policy, since 2004 Tanzania has favoured the expansion of O-Level secondary education. The O-Level course lasts four years and is validated by a national examination at the end of Form 4, the Certificate of Secondary Education Examination (CSEE), which assesses students' learning and is used to select students for A-Level at government secondary schools, of which there are very few. An examination in Form 2 is also held to assess students' learning. The A-Level course lasts for two years and offers combinations of arts, agriculture, business and science subjects. At the end of the course, students take the Advanced Certificate of Secondary Education Examination (ACSEE).

O-Level curricula are also provided through the Open Distance Learning (ODL) programme delivered by the Institute of Adult Education (IAE). The programme caters for different groups: young people and adults who have missed out on the opportunity of gaining a formal education as a result of social, economic and cultural factors (pregnant girls were until recently evicted from school). It is delivered through modules and face-to-face sessions with regional resident tutors and in particular invited secondary school teachers. ODL students sit the CSEE as private candidates. Co-education is the standard practice for ordinary level government secondary education in Tanzania, so male and female students study together. The schools also are day schools. Advanced level is single sex education, which means schools cater for either female or male students; boarding schools are the norm at this level.

2.1.3 Government (public) secondary schools vs. Non-Government (private) secondary schools

Secondary schools in Tanzania fall into two categories, government (public) and non-government (private) schools. All government secondary schools are owned by the government of Tanzania (which is where the term government secondary schools is derived from). Given the government ownership of schools, the expectation of this study was that the provision of education would be equitable across the state and that EEO would predominate. However, these schools fall into two groups. The first group constitutes old, traditional, government-built secondary schools, including all secondary schools which were built before 2004, that is, before the initiative to increase access to and provision of secondary education. The second group is made up of government-community built secondary schools, which have been introduced in the context of the expansion of secondary education since 2004 for the purpose of widening access and

provision. These schools were opened following government and community initiatives aiming to provide new secondary schools in almost every ward of every district of the country (Kaguo, 2011), hence the name government-community secondary schools, commonly shortened to ‘community secondary schools’.

Increasing access to and provision of secondary education implies a direct role for government. All government secondary schools receive full government funding for recurring costs (some of which are defrayed through the collection of school fees and boarding fees). However, community secondary schools, apart from those that are primarily funded by the government, are managed jointly by the government and non-governmental bodies, such as communities (Kivenule, 2015). However, traditional government secondary schools are also fully funded by the government (Kaguo, 2011). Non-government secondary schools, on the other hand, have a variety of administrative structures, including ownership and managed by religious bodies, Non-Government Organizations (NGOs), communities, and individuals. Expansion of the non-government system implies that private finance plays a role school management.

In general terms, the number of government secondary schools far exceeds the number of non-government secondary schools. In 2009 for instance, 4,102 secondary schools were registered, 80 percent of which were government-owned. 3,649 schools offered O-Level and 453 offered A-Level. All A-Level schools (except for six, located in Dar es Salaam) are boarding schools, most are single-gender, and most are attached to schools offering O-Level. Both government and non-government secondary schools have a uniform curriculum across the state, with the exception of international schools. In Tanzania as in other countries, the distinction between government secondary schools and non-government secondary schools means that there is diversity within this sector of education. This distinction is useful because it delineates two main avenues for expanding the education system.

2.2 Access to and Provision of Secondary Education in Tanzania

Increased access to and provision of secondary education plays a key role in the connection of primary schooling, tertiary education and the labour market. Increased access to and provision of secondary education helps to improve access to and provision of primary education, because it gives students the opportunity to progress to a further educational stage after they have completed primary school. Increased access to and provision of secondary education also enables more students to acquire a tertiary education or other type of higher education and also provides the country with a greater number of highly educated

people. Increased access to and provision of secondary education is further justified on the grounds of its contribution to increased productivity, which lays the basis for sustained economic growth and reduced poverty; its contribution to the development of human capital and the associated effects of this on democracy, crime reduction, and improvement of living conditions (OECD, 2012; URT, 2008).

2.2.1 From Colonialism through independence to 2003

Access to and provision of secondary education can be traced through his history since the establishment of secondary schools in Tanzania. Secondary education was established and developed during British colonial rule but access and provision for Tanzanians was characterized by regional imbalances. Many scholars (Lassibille et al., 2002; Mbelle and Katabaro, 2003; Samoff, 1987; Wandela, 2014; Wedgwood, 2005) report differentiated access on a geographical basis, favoring the highlands and most fertile areas; in addition, education was provided primarily to the sons of chiefs and a very few other privileged recipients. Only one percent of school-age Tanzanians were enrolled in secondary schools and no females ever progressed beyond the primary level under colonial rule (Wedgwood, 2005). After independence in 1961, deliberate efforts were therefore made by the new Tanzania government to eliminate all forms of discrimination relating to access and provision in all forms of education. The various educational policies and strategies which were formulated immediately after independence demonstrated the new government's commitment to addressing the inequalities in education inherited from the colonial past, and to increase individuals' educational attainment at a variety of levels. A Three-Year Development Plan (1961-1964) was formulated, in which secondary education was given the highest priority, to address the requirement for a more highly-educated workforce in order to ensure quick and efficient Africanization of the new country's administration and economy. An Education Act was passed to provide for a single, overall system of education in the whole country. This Act became effective at the beginning of January 1962 (a few months after independence). It repealed and replaced the 1927 Education Ordinance and was intended to abolish all forms of discrimination in the provision of all levels of education. It applied to all children irrespective of racial, religious or social background, thus discarding the separate racial systems. From then on, any child could secure admission to any government or government aided-school without reference to race, religion or social background. Access to and provision of secondary education was made thereafter without any form of discrimination.

With the introduction of the "Education for Self-Reliance" policy in 1967 the increase in access to and provision of secondary education decelerated, since the policy emphasized the expansion and provision of

primary education in order to tackle ignorance, disease and poverty. Secondary education was left to the few who would then serve many people in their communities after completing it studies or had opportunities for further study (Nyerere, 1967; Wedgwood, 2005). Throughout the 1970s, secondary education was restricted not only by limited public investment but also by policies that restricted the involvement of the private/NGO and voluntary sector due to concerns over maintaining quality and equity (Wedgwood, 2005; Oketch and Rolleston, 2007). Consequently, in 1980 only 4% of the relevant age cohort was enrolled in secondary schools in Tanzania (Oketch and Rolleston, 2007). The dramatic and rapid expansion of primary school education that had started almost immediately after the Musoma Resolution in 1973, was not, however, matched by similar expansion at secondary level. Consequently, despite a small rise in the absolute numbers of secondary enrollees, the percentage of standard VII leavers progressing to secondary school plummeted – falling from 36 percent in 1961 to 19 percent in 1967 and to only 7 percent in 1980 (Knight and Sabot, 1990 cited in Al-Samarrai and Peasgood, 1998). However, the proportion rose to about 15 percent by the early 1990s as a result of World Bank liberalization policies that led to a loosening of restrictions on the private/NGO and voluntary sector in the mid-1980s. One of the World Bank policy aims was expansion of access. Prior to 1984, the operation of private secondary schools was severely restricted by government. As a consequence of liberalization, the percentage of Form I students in non-government secondary schools rose from 7 percent in 1960 to 29 percent in 1970 to 43 percent in 1980 and 60 percent in 1992. Improvements in access to secondary education thus continued for over 30 years. However, improved access was accompanied by a decrease in the quality of provision, evidenced by curriculum overload, poor supply of textbooks and other teaching and learning materials, inadequate teacher qualifications and poor teaching skills, low utilization of teachers and physical facilities, insufficient time spent on tasks by students, inadequate financing compared with other education sectors, and inequitable participation by region (rural-urban), income levels, gender and social-cultural groups (Carr-Hill and Ndalichako, 2005; Mbelle and Katabaro, 2003; Wedgwood, 2005; URT, 2004)

2.2.2 From 2004 to the present

In the past 15 years, however, Tanzania has made remarkable progress on increased secondary education access, provision and attainment. As regards access and provision, the first major government initiative was the launch of the Secondary Education Development Programme (SEDP 2004-2009) (phase I), which transformed secondary education from an elitist to a mass operation. Many community-built government day secondary schools were built in every ward; not only in order to increase access to secondary education

but also to improve the quality of provision by tackling equity, retention, quality and management issues (Wedgwood, 2005; URT, 2004). SEDP (phase I) provided increased opportunity for children from poor families and children with disabilities to attend secondary school (Carr-Hill and Ndalichako, 2005). SEDP (phase I)'s promotion of access and equity in the 2007/2008 financial year led enrolments in Form 1-4 to increase from 432,599 in 2004 to 1,466,402 in 2009 (249% increase), and enrolments in Forms 5 and 6 to increase from 31,001 in to 64,846 over the same period (109% increase). SEDP (phase 1) has also succeeded in improving the provision of education: teacher shortages have been reduced and teacher retention improved in a number of places by making the profession more attractive, and by transferring qualified teachers from primary schools to secondary schools; and more classrooms, teachers' houses, dormitories, libraries, laboratories and administrative blocks have been provided. Analysis shows that by the end of SEDP (phase I) 867 classrooms, 1,501 teachers' houses, 34 dormitories, 19 libraries, 84 laboratories, and 19 administration blocks had been constructed (Carr-Hill and Ndalichako, 2005). The number of secondary schools also increased, from 1,291 (government 828 and 463 non-government including seminaries) in 2004 to 4,102 in 2009 (3,283 Government and 819 non-governments), representing an increase of 296%. Moreover, most of these schools were financed through community support in their wards (URT, 2010). The secondary curriculum was changed, in order to cut down the number of subjects offered and make the curriculum relevant to Tanzania's current and ongoing need to produce quality graduates and eliminate poverty. The review of the programme shows that it had its greatest success in improving access and provision although it faced a number of challenges including low transition rates (hardly 30%) from ordinary to advanced level secondary, acute teacher shortages, asymmetrical deployment of teachers, inequalities in learning environments, insufficient infrastructure, lack of, or non-use of, laboratories, poor teaching approaches, poor performance in secondary examinations, and limited school management skills (URT, 2010).

SEDP (II) (2010-2015), the continuation of SEDP (I), followed, with one of its objectives being the continuation of initiatives that had not been fully implemented under SEDP (I). This programme was also successful, although it faced many challenges including poor participation on the part of many students, which led to poor academic achievement, especially in remote secondary schools (Laddunuri, 2012). It is thus clear that in spite of increased access to and provision of secondary education, the majority of students fail to participate effectively in education. Most students therefore fail to participate effectively in the various secondary education opportunities made available to them, which means that it remains a challenge to ensure such students complete their secondary education. The problem is most pronounced for secondary

school students who come from the more deprived segments of Tanzanian society. In this context, understanding how secondary school students engage with their schooling is key to evaluating their participation in secondary education.

2.3 Current Successes and Challenges relating to Access to and Provision of Secondary Education

2.3.1 Access

There was a marked increase in the numbers of students enrolling in secondary schools between 2002 and 2013. The trend subsequently led to the Gross Enrolment Ratio (GER) increasing from 7% in 2002 to 32% in 2013 while the Net Enrolment Ratio (NER) increased fivefold in eight years, from 6% in 2002 to 30% in 2010 (URT, 2018). However, the data also reveal that disparities between regions and wealth levels have a bearing on access to secondary education. The Tanzania Demographic and Health Survey (2010), for example, reports that the secondary NER for the wealthiest households is 49%, more than five times the ratio for the poorest households (9%). Moreover, young people of secondary school age in urban areas were more likely to attend secondary school than their counterparts in rural areas (44% and 19%, respectively) (URT, 2010).

2.3.2 Provision

The institutions of the MoEVT undertook a review of the secondary school curriculum to ensure it reflected the needs of Tanzanian students, namely that every academic subject was relevant to the needs of every student, both during and after their period of study, i.e. in their future lives. The curriculum was also changed from content-based to competence-based so as to ensure that teaching was student-centred and that different areas of study addressed specific and appropriate competencies. This encouraged teachers throughout the country to strive to deliver a more experiential, hands-on learning experience, characterized by more open communication, challenge and appropriate feedback. Within competency-based instruction, learner-centred approaches such as inquiry-based learning focus on fostering students' intellectual curiosity by allowing them to create conceptual frameworks for their own experiences and for problem-solving. Teaching and learning thus emphasize process, and learning outcomes that result in knowledge and skills that are applicable to real-world contexts. Apart from addressing the core subjects and methodologies, teachers focus on the diversity of learner needs, special needs being a case in point. The government also recruited an appropriate number of teachers, in order to meet the teacher-student ratio (1:40) required to accommodate increased enrolment. The quality of education at secondary school level was

enhanced by making available quality teaching and learning materials especially textbooks. This policy aimed to ensure that textbooks were relevant and up to date for the 21st century, and were supplied to every class level in secondary schools. The strategy was supported by the introduction of a capitation grant to enable all secondary schools to make such materials available (URT, 2008). Through the relevant ministries and other bodies, the government of Tanzania provided welcoming and suitable libraries, laboratories, classrooms, pit latrines, furniture, electricity, teachers' houses because these were found to be essential to the provision of quality education at secondary education level as stipulated in ESDP and its associated SEDP I and II secondary education programs. The development of school infrastructure aimed to make the school environment conducive to effective teaching and learning and inclusive of all children. With regard to quality assessment in secondary schools, national data indicate that learner success rates in the CSEE increased from 77.4 percent in 2001 to 91.5 percent in 2004. Thereafter, there was a steady decline until 2013 when overall success rates stood at 58.25. The decline in performance might have been caused by the expansion of enrolment under the SEDP I which resulted in an acute shortage of teachers and teaching and learning supplies (*ibid*).

There is a general concern that strategies to broaden provision of secondary education has led to a decline in competences and skills among learners at all secondary levels (URT, 2008; URT, 2011). This is the result of rote learning, which is based on the transfer of knowledge by means of theoretical instruction and memorization. As evidenced in the results of studies such as “Uwezo” and national examinations, secondary school graduates and graduates of programmes at other levels do not exhibit socially acceptable behaviours, neither are they able to perform economic and cultural activities. Although the government is re-emphasizing the philosophy of education for self reliance, which is based on participatory and practical teaching and learning methodologies, problem solving and critical thinking, there have not yet been any marked changes in the situation (*ibid*).

2.4 Expanding Access and Provision to Ensure EEO

Since expanding access to and provision of secondary education benefits both individuals and society as a whole in a multiplicity of ways, expanded access and provision should go hand in hand with enhancement and highlighting of factors that influence the principle of EEO.

EEO factors need to be enhanced in order to expose all students at every secondary school fully to opportunities for intellectual and skills development that will enable each individual to maximize his or her potential. Such exposure will eventually balance educational outcomes, i.e. will exhibit no differences between students in respect of factors including socioeconomic status, gender, religion or region. Enhancing EEO factors does not imply the elimination of differences in individuals' ultimate educational achievement and the associated benefits, nor does it mean removing differences in the ways that individuals exploit the educational opportunities provided to them; it means ensuring every qualified student, irrespective of differences between individuals (origin, status, gender, religion, creed) is able to take advantage of all the educational opportunities available to them and to harness their maximum potential.

Ultimately the aim of enhancing EEO factors is to ensure that underserved social groups (the poor; disabled; street and working children; rural and remote populations; nomads and migrant workers; indigenous peoples; ethnic, racial, and linguistic minorities; refugees; those displaced by war; and people under occupation) do not suffer any discrimination when exploiting educational opportunities. Every category of students should be regarded as an integral part of the education system (OECD, 2012)

Equality of Educational Opportunity (EEO) principle

This principle of EEO was developed by various scholars including Anderson (2007), Burbules et al. (1982), Coleman (1966), Baker and Howe (1998), Lazenby (2016) Solmon (1970), Nwabuogu (1984), Satz (2007) and Singh (2014), and includes two types of factors: input factors (equality of educational access and equality of educational participation or equality of starting point) (Kodelja, 2016) and output factors (equality of results or equality of outcomes and equality of educational effect on life chances) (*ibid*). *Equality of educational access* is concerned with ensuring that all students entering a given level of education have an equal chance to access the educational opportunities they aspire to. This means that all individuals of the same age should be given the same educational opportunities. However, only those who possess the necessary capacities should be able to access them.

In order to ensure equal opportunity for those who have the necessary capacities, *equality of educational participation (equality of starting point)* should also be ensured. Equality of educational participation implies that educational opportunity is distributed amongst students on the basis of their abilities irrespective of their origins, locality, race and sex. This means any educational opportunity (benefit or

treatment) should be distributed in a fair and equal manner based on students' possession of certain relevant characteristics. Environmental factors, over which a child has little control (for example, the economic status of the family into which he or she is born, or social attitudes towards the race of which he or she is a member) should not be allowed to create barriers to the full realization of the child's intellectual potential. Relevant student characteristics are those personal characteristics (traits, abilities, beliefs, emotional states) which are instrumental to the attainment of some given end (EEO output factors), and which justify the equal or fair distribution of benefits or treatments to them (Burbules et al., 1982). Which characteristics are relevant will depend on the specific educational shares or treatment in question, where each characteristic is necessary or sufficient (or both) for the acquisition of such shares or treatment. Unequal educational opportunity occurs, first, when there is distribution of benefits or treatments based on irrelevant characteristics; second, when the condition for accessing the opportunity has not been met; or the first and second case can happen together. In all three cases, EEO is said to be biased (Burbules et al., 1982). However, there are two strategies for achieving EEO where the existing characteristics are irrelevant and/or where conditions for access have not been met. These can be either to alter the conditions of access so that previously irrelevant characteristics become relevant, or to compensate for irrelevant characteristics.

Thus, equality of participation further means that if one wants to put individuals who are different by nature in the same starting position, then it is necessary to favour the disadvantaged or disadvantage the advantaged (*ibid*). This in turn means artificially creating differences and discrimination that previously did not exist. Inequality thus becomes a means of achieving equality, by the correction of prior inequality: the new equality is therefore the result of levelling two inequalities (*ibid*, Lazenby, 2016). Furthermore, equality of educational participation ensures the availability of educational resource inputs in the form of educational services and facilities (such as the provision of buildings, plants and equipment, the quantity and quality of educational programs, teacher quality and teacher/pupil ratios). Equality of educational participation is measured by a variety of wide-ranging tests including measurable inputs such as facilities and different services to schools. It can also be measured through students' responses to the educational services, facilities and other resources provided to them (Nwabuogu, 1984).

Equality of educational outcomes or results can be understood as every student having an equal opportunity to become the best. This requires that equal opportunities to compete be made available to all students regardless of their social origin or other ascribed characteristics (Hallinan, 2000). Thus equality of educational outcomes should be a result of fairness in the rules that regulate efforts to equate individuals'

natural talents with their successes. It should also be a result of equally effective schools (not equal schools) whose effects will compensate for any differences that exist between students of different social origin at the beginning of schooling (Coleman, 1966). Equality of educational outcomes relates to the more immediate equality of educational results. These results could be in terms of knowledge, attitudes and skills already acquired. Equality of educational outcomes is measured by a variety of wide-ranging tests, which indicate school achievement (resources, subjects, etc.) and students' cognitive, attitudinal and/or psychomotor achievement (Nwabuogu, 1984).

The achievement of equality of educational outcomes requires every student to have started from the same point (i.e. to have benefitted from the same EEO input factors), and to have had access to the same level of resources (Kodelja, 2016). This also means that all students must be subject to the same rules and procedures (*ibid*). Equality of educational outcomes presupposes that school services and financial resources have been deployed in such a manner as to wipe out any ongoing differences between students in terms of sex, race, social and economic status (Nwabuogu, 1984). Equality of educational outcomes also envisages a minimum level of equal student learning, or the acquisition of identical or similar basic skills by pupils of different economic and social background during each year of schooling.

Equality of educational effect on life chances implies that only the best students obtain social goods (because they are limited), not all students. The sense here is that not all individuals may have the opportunity to achieve the same levels of success. Equality of educational effect on life chances extends the notion of equality of educational results to the world of work.

2.5 EEO and Student Engagement with schooling

It is important to relate EEO, in this case, equality of educational participation, to student engagement. When the aim is to enhance equality of educational participation, it is necessary to supply all students (irrespective of their differences) with the full educational provision that is required to ensure each individual reaches his or her full potential. This implies ensuring every student participates fully in all the educational opportunities provided to them. Any initiative to enhance equality of educational participation must concern itself with ensuring that students are fully engaged, so as to ensure that they acquire the appropriate knowledge, reasoning ability, skills and values. An educational context where equality of educational participation is well developed translates educational experience into meaningful schooling,

and provides every individual student with all relevant knowledge, reasoning abilities, skills and values. Conversely, a situation where students are properly engaged in the acquisition of relevant knowledge, reasoning abilities, skills and values is one where equality of educational participation is well-developed. Where it is necessary to enhance equality of education participation, schools should be looking to remove barriers that are preventing students from engaging fully with the educational opportunities provided to them. This means school environments should encourage all students to exploit all the services, resources and facilities provided. Educational services, resources and facilities must be conducive to be effectively used by the students, and no students should encounter any barrier to their fully exploiting all the educational services, resources and facilities made available to them

Student engagement has recently been identified by many countries and studies as a key factor for educational practices and outcomes. However, such initiatives also need to take account of equality of educational participation for secondary school students (Kuh, 2009). The ways in which students are engaged in the provision of education should be observed in order to make participation in education process meaningful and relevant for all. This means that student engagement with educational processes should eliminate differences between students and the subsequent outcomes (Clayton-Pedersen et al., 2009 in Lee and Reeve, 2012)

Currently, however, there is no evidence to support the contention that low levels of equality of educational participation are directly associated with low levels of student engagement; and greater equality of educational participation is directly associated with higher levels of student engagement. This means that currently there is no evidence to support the observation that schooling where most students show high levels of engagement is a direct indicator of higher equality of educational participation and schooling where most students show low levels of engagement is a direct indicator of lower equality of educational participation. However, studies do show that disparities in students' characteristics have an impact on students' engagement with schooling (Konold et al., 2018; Maxwell et al, 2017; Willms, 2003), and also that different school environments have an impact on student engagement (*ibid*). The present study therefore makes a connection between the influence of students' characteristics and of school environments on student engagement and equality of educational participation.

CHAPTER THREE

3. LITERATURE REVIEW

This chapter presents a literature review in order to provide a theoretical and empirical framework for understanding student engagement with schooling in the context of EEO. It begins with an explanation of student engagement with schooling and how it is defined. The chapter then explores how student engagement with schooling is measured and analyses different indicators of student engagement in the context of this study. The chapter further presents evidence of student engagement with schooling from different literature as relevant to this study in order to illuminate the purpose of this study. Finally, it describes ways of promoting student engagement with schooling, and highlights the importance of involving students with promotion of student engagement, which unveils a gap in current research.

3.1 Student engagement with schooling.

Student engagement is a broad construct encompassing many aspects of students' experience (Coates, 2007; Fredricks et al., 2004; Frenandez-Zabala et al, 2016; Trowler, 2010). Student engagement involves both behaviours (e.g. persistence, effort, attention) and emotions (e.g. enthusiasm, interest, and pride in success). Behaviours comprise mental or cognitive activity (attention, problem solving, use of meta-cognitive strategies) and observable activity (participation in class, completing work, seeking assistance when having difficulty, taking challenging classes) (Connell and Wellborn, 1991; Johnson et al., 2001; Newmann, 1992; Skinner and Belmont, 1993; Smerdon, 2002; Turner et al., 2014).

Student engagement with schooling can be equated with engagement with any other social institutions such as churches, mosques, youth centres or community organizations. Engagement constitutes students' attachment to school as a social organization, but also their engagement in school activities, including sports, band, student government, and extracurricular pursuits. Such engagement promotes positive development and protects students from risks that emerge during early adolescence, such as delinquency, involvement with gangs, substance use, or unsafe sexual activity. As a result it protects students against absenteeism and dropout; and hence enhances the chances of students' completing school and graduating (Ainley et al., 1992; Holland and Andre, 1987; Finn, 1989; Ainley & Sheret 1993; Morse et al., 2004).

Student engagement with schooling also entails engagement in the classroom: direct engagement with different academic activities in the interests of acquiring knowledge and skills. Engagement attaches students directly to learning because it encourages their participation in learning activities. It promotes academic assets such as learning, coping strategies and resilience, and ultimately leads to academic achievement and protects against academic failure (Appleton et al., 2008, Guo et al., 2011; Smallhorn, 2017).

Student engagement with schooling is therefore the active verb between the curriculum (whether this be the core curriculum, extra curricular activities or the null curriculum) and actual learning. Student engagement with schooling is critical for three reasons. Firstly, it is a primary engine that changes, shapes and develops students' everyday experiences (behaviours and emotions) in school and in the classroom, psychologically, physically, mentally and socially. High-quality engagement, and the resulting learning and scholastic success, leads students to feel more academically competent and connected, and elicits more positive interactions and support from teachers. Moreover, engaged students gain entry into friendships and peer groups with more engaged classmates and schoolmates. Student engagement with schooling thus plays an important role in the quality of students' daily life and learning experiences while they are attending schools (Appleton et al., 2008).

Second, student engagement with schooling is a necessary condition for learning. When students participate in academic and extra-curricular activities, they acquire knowledge and skills. As a result student engagement is the direct (and only) pathway to cumulative learning, long-term achievement, and eventual academic success.

Third, student engagement with schooling is a critical contributor to students' academic development. It helps students cope more adaptively with daily stressors, challenges, and setbacks in school, and assists with the development of sustainable long-term motivational mindsets and skills sets. These include autonomous learning styles, mastery orientation, self-regulated learning, a positive academic identity, and eventually ownership of one's own progress in high school (and beyond). Student engagement with schooling can thus be seen as a key player in the development of academic assets across the school year and over the arc of a student's entire educational career.

3.2 Student engagement as an outcome

While a number of researchers posit student engagement as a mediator between contextual influences (i.e. facilitators) and desirable learning outcomes such as academic achievement (Appleton et al., 2006; Appleton et al., 2008; Fredericks et al., 2004), a number of studies expound the theory that student engagement is a predictor of student satisfaction and persistence (Murray et al., 2004; Clark, 2017). A number of researchers also see student engagement as an outcome in itself (Fredricks et al., 2004; Veiga, 2016; Willms, 2003 and Zyngier, 2008). However, Willms (2003) and Zyngier (2008) contend that student engagement is not a predictor of academic success, although there is considerable evidence in the literature of an association between engagement and positive outcomes such as the work of Fredricks et al. (2004). While the prevalence of disengaged students varies between countries and between schools within countries, disengagement is not the sole determinant of academic achievement (Zyngier, 2008). OECD research concludes that there is a significant number of students with a strong academic performance who are nevertheless disaffected from school (Willms, 2003). Educators cannot presume that students with a satisfactory or high level of academic achievement are automatically engaged, since many students withdraw from school, or do not continue with further studies after completing their secondary education. This is consistent with Veiga (2016), who recognize that even students who withdraw or retreat from learning and school activities are making conscious decisions, and may therefore be engaged with their schooling. Willms (2003) concludes that students' sense of belonging in a school is a weak predictor of academic performance and is not strongly related either to participation or ability. It is thus not correct to label students who reject a school's values (for any reason) as disengaged.

The research of Willms (2003) and Bangert-Drowns et al. (1991) therefore does not support the notion that engagement is an unalterable characteristic, either inherited from or conditioned at home, but concludes that it "entails attitudes and behaviours that can be affected by teachers and parents and shaped by school policy and practice" (Willms, 2003, pg. 9). Recent research therefore suggests that in order to assess the issue of student engagement and address the problem of disengagement, students need to be empowered to control their own learning.

Instruments for measuring student engagement

A wide variety of instruments is used to measure student engagement. These vary in breadth. Murray et al. (2004) identified quantitative measures of student engagement as questionnaires, checklists, rating scales and direct observations; and qualitative measures of student engagement as case studies and ethnographic

methods. Questionnaires, checklists and rating scales can be used to assess all three dimensions of engagement (emotional, behavioural and cognitive). Some of them involve self-reporting by students while others are completed by teachers or family members. Respondents are usually asked to rate student engagement with various items using Likert scales (Murray et al., 2004). Direct observation is mainly used to measure behavioural engagement, although it can also be used to measure some aspects of cognitive engagement (*ibid*). In this regard, only a few instruments attempt to measure all three dimensions of engagement, but the vast majority measure only one or two dimensions or specific aspects (Murray et al., 2004).

Qualitative methods such as focused case studies and ethnographic methods are useful when investigation is restricted to a relatively small group of students. These allow students' behaviours, cognition and feelings to be explored in a detailed, open-ended way that is not possible using quantitative methods. In addition, qualitative methods are capable of producing a broader picture of student engagement, as they allow consideration of the wider classroom and whole school context. As Chapman (2003) points out, such methods are concerned as much with the processes associated with student engagement as with measuring student engagement levels. However, not all of these measures were developed for use in research; some were intended as monitoring tools. Educational administrators in Australia, for instance, have developed questionnaires to assess student satisfaction with school in order to monitor student outcomes and school performance (Murray et al., 2004). When student engagement is regarded as an outcome in itself, it is possible to discern a number of the outcomes of engagement: students' degree or level of connection with school and learning is evidenced by attendance patterns, disruptive behaviour, completion of school work, satisfaction with school, perception of school processes, to name but a few. Study of the outcomes of student engagement enables the processes of engagement to be identified and the progress of individual students and programs to be monitored. It may also be necessary to identify predictors of engagement when student engagement is regarded as an outcome in itself; these include gender, school location and socioeconomic status. Examination of predictors of engagement leads to implications for policy and practice (Eccles et al., 1993; Reis and McCoach, 2000). It is crucial to determine the most predictive indicators and influential outcomes across relational contexts and over time in order to monitor the engagement of all students (*ibid*).

Predictors of student engagement

In most cases, predictors of student engagement are contextual variables that have an impact on students' strength of connection with school and learning. Contextual variables associated with student engagement can be divided into school factors and non-school factors (Murray et al., 2004). School factors are characteristics and processes of schools while non-school factors include personal, peer, family, community and social factors affecting students. Examples of school factors are school size, school environment, student-staff ratio, gender mix, quality of infrastructure, class size, classroom environment, student composition, access to learning resources and teaching techniques. Non-school factors include personal attributes (e.g. age, grade, gender, race, educational aspirations, self-efficacy, previous academic performance, psychological state, behaviour), peer factors (e.g. friends' behaviour and attitudes towards school, victimization at school), family factors (family size, socio-economic status, parental attitudes towards school, parental involvement), community factors (e.g. community norms) and social factors (e.g. ethnicity) (Murray et al., 2004).

Outcomes of student engagement

The outcomes of student engagement are manifold and interdisciplinary. In this sense, student engagement is described as a meta-construct in the field of education, because it brings together many separate lines of research in one conceptual model. As a meta-construct, it also has multiple outcome indicators. This study has therefore set different categories of outcome indicators for student engagement, namely attitudes and perceptions; and also identified engagement dimensions in order to simplify examination of the outcomes under study.

(i) Attitudes

This study takes student attitudes as a measure of engagement with schooling, since they affect the feelings of individual students, and their actions and thoughts in relation to their participation in schooling. When a student's attitudes are formed, they influence that student's whole experience of education and have a significant impact on his or her overall levels of attainment (Kpolovie et al., 2014; Candeias et al., 1996). This study then studied students' individual characteristics, and their predispositions (feelings, thoughts, beliefs and emotions) towards several aspects of school, as indicators of engagement with schooling. Since attitudes cannot be directly observed but are inferred from overt behaviour, both verbal and nonverbal, the study explored students' attitudes through their responses to a questionnaire. Positive attitudes towards specified aspects of school and towards was taken as indicative of a high level of engagement and negative attitudes towards specified aspects of school as an indication of a low level of engagement.

(ii) Perceptions

A second measure of student engagement used by the study is perceptions, namely students' interpretation of different information, objects, people and events related to their school and which affect the way they participate in schooling. The reason for the inclusion of this measure is that students' participation in schooling derives from their individual perceptions rather than the 'objective' reality of the activities and interpersonal relations in the educational environment (Koth et al., 2008). Student perceptions during schooling are key potential targets for initiatives aiming to improve student participation in schooling, enhance achievement and reduce discipline problems (Haynes et al., 1997, Koth et al., 2008). The focus here is on capturing the way students interpret objects, events or situations and people. Since perceptions cannot be directly observed but only inferred from overt behaviour, both verbal and nonverbal, the study explored students' perceptions through their responses to a questionnaire. Therefore, when students have a positive perception of an object, event, situation or person, this is an indicator of a high level of engagement, and when students have a negative perception of an object, event, situation or a person, this is an indicator of a low level of engagement.

(iii) Engagement dimensions

Engagement dimensions are also used to measure student engagement with schooling. These are domains that are used to classify various constructs of student engagement (Cooper, 2014; Fredricks et al., 2004; Yazzie-Mintz and McCormick, 2012), and are used to highlight the complexity of student engagement and encourage specificity in the instruments and measures used to study student engagement.

3.3 Engagement dimensions

Since student engagement has started to be recognized to be a multi-dimensional construct, different research has suggested a number of different dimensions. Some researchers suggest two, others three and others four. Much recent research identifies three dimensions, and the present study conceptualizes student engagement as having three dimensions; emotional engagement, behavioural engagement, and cognitive engagement.

Emotional engagement, also known as affective engagement or psychological engagement (Finn, 1989; Willims, 2003), is also understood in terms of identification (Goodenow, 1992; Finn, 1989; Fernandez-Zabala et al, 2016; Fredricks et al., 2004), school connectedness, and attachment to school (Johnson et al., 2001). Emotional engagement occurs when students internalize the feeling that they 'belong' in school,

both that they are a conspicuous part of the school environment and that school is an important aspect of their own experience. Students exhibit affective reactions towards tasks, school, and people at school (e.g. teachers or peers), for instance by liking, disliking, being interested in, being bored by, or being happy, sad or anxious about them. Positive emotional reactions to tasks or people can lead to students having a sense of belonging at school. Having a sense of belonging means students feel accepted, included, respected and valued by people at school (Goodenow and Glady, 1993; Willms, 2003). Emotional engagement is likely to occur over time if students continue to participate in classroom and school activities. An internalized sense of identification can, in turn, serve to perpetuate students' active participation in class and school.

Behavioural engagement, which is termed participation by scholars such as Finn (1989, cited in Finn and Voelkl, 1993), is the extent in which a student regularly participates in classroom and school activities. At the most basic level, participation involves students attending school and class, paying attention to the teacher, and taking part in curricular activities by responding appropriately to directions, questions, and assignments. At a higher level, a student may initiate questions and dialogue with teachers and display enthusiasm for learning through the expenditure of extra time in the classroom or by doing more class work or homework than is required. Participatory behaviour may also include involvement in subject-related clubs or community activities and in the social, extracurricular, and athletic sector of school life in addition to, or at times in place of, extensive participation in academic work.

Other scholars (Coates, 2007; Conner and Fraser, 2011; Kraft and Dougherty, 2013; Trowler, 2010) have further referred to behavioural engagement as attendance and involvement, and demonstration of the absence of disruptive or negative behaviour. Thus, a student can be considered engaged in behavioural terms if he/she tends to comply with behavioural norms and demonstrates the absence of negative and/or disruptive behaviour. Fredricks et al. (2004) went further, classifying forms of behavioural engagement: positive conduct, involvement in learning, and participation in school-related activities. Positive conduct includes attending class, avoiding disruptive behaviours, responding to directions, and following classroom rules. Involvement in learning includes concentrating, making an effort, being persistent, contributing to class discussion, asking questions, finishing homework, and spending extra time on class-related learning. Participation in school-related activities includes taking part in extracurricular activities such as sports, teams or student organizations. These behaviours are essential in order for schools to achieve successful outcomes.

Cognitive engagement, which is also understood as investment by most scholars of student engagement (Chapman, 2003; Connell and Wellborn, 1991; Fredricks et al., 2004; Furlong et al., 2003; Jimerson et al., 2003; Klem and Connell, 2004), incorporates thoughtfulness and willingness to exert the effort necessary to comprehend ideas and master skills. Students invest effort in learning and in finding and using learning strategies in order to enhance their knowledge and skills. Learning strategies can range from surface-level strategies such as memorization for short-term retention of information, to the application of more sophisticated and complex ideas such as monitoring, analysing or synthesizing ideas, evaluation and task planning, in order to master complicated material, and the acquisition of more sophisticated skills in order to promote deeper understanding and expertise (Fredricks et al., 2004).

Being a multidimensional construct, student engagement offers rich opportunities for understanding the complexity of students' experiences in schools. Studying behaviour or emotions alone is not sufficiently representative of engagement: at times the way students behave in school may not be consistent with how they feel about school, for instance. Some students who comply with school rules, do required classwork and homework and participate in class activities may not necessarily feel emotionally attached to school or see the value of the education they are receiving. Students who come to school to socialize with friends may feel connected, but may try to get by with minimal effort. Similarly, students who perceive school and classroom learning as important and relevant may not always participate actively in academic activities for various reasons (Eccles and Roeser, 2009; Jimerson et al., 2003; Li and Lerner, 2013). Student engagement therefore needs to be measured by the full range of student behaviour and emotions in relation to school and school processes. It is evidenced through willingness to comply with school rules, genuine commitment to or actual investment in learning, positive emotions, and the application of meaningful effort, commitment and active participation in specific classroom and school activities. Therefore, active participation, the exertion of great concentration and effort, positive emotions or feelings of excitement and a sense of connectedness, and cognitive processes such as commitment and values are all necessary ingredients for student engagement with schooling (Eccles and Roeser, 2009; Jimerson et al., 2003; Li and Lerner, 2013).

From the viewpoint of scholars like Jimerson et al. (2003) and Li and Lerner (2013), recent ideas about student engagement have moved from a unidimensional to a multidimensional concept of student engagement, because the various dimensions are often found to be inter-correlated with each other. Reschly and Christenson's (2012) model of student engagement, for instance, suggests that cognitive and emotional

engagement are potential mediators of behavioural engagement. In other words, they believe that changes in cognitive and emotional engagement precede changes in behavioural engagement. Interest in learning, persistence in the pursuit of academic goals, the ability to relate classroom learning to future aspirations, and emotional connections to teachers, peers and school tend to lead a student to participate actively in school activities (Reschly et al., 2012). Conversely, Finn's participation – identification model (Finn, 1989) postulates that participation (behavioural engagement) precedes emotional engagement (identification) while, Finn and Zimmer's (2012) model of student engagement suggests that emotional engagement acts as the fuel enabling students to demonstrate cognitive and behavioural engagement (Finn and Zimmer, 2012). They take the view that emotional engagement acts as motivation, and the other two types of engagement as investment. Scholars of student engagement also make theoretical assumptions about the relationships between emotional and cognitive engagement. For instance, Folkman (1997) and Folkman and Moskowitz (2003) suggest that positive emotions are related to increased well-being through effective coping strategies. In other words, the relationship between positive emotions and well-being arises through changes in individuals' thinking and, possibly, actions.

Study has also been undertaken of the interrelationship between the various dimensions of student engagement. Skinner et al. (2014), for instance, investigated the actions of different aspects of student engagement upon each other and found that the emotional aspects of student engagement contributed significantly to changes in behavioural engagement. In line with Skinner et al. (2014), Li et al. (2010) found that emotional engagement led to behavioural engagement, but not vice versa. Similarly, Ladd and Dinella (2009) found that children who liked school (emotional engagement) when they entered kindergarten tended to participate cooperatively (behavioural engagement) in class activities as the school year progressed. However, Li and Lerner (2013) found when using an autoregressive lagged effects model to assess the relationship between the three engagement dimensions that every behavioural and emotional dimension formed the basis and outcome of every other, while behavioural engagement influenced cognitive engagement but the reverse relation was not present. Alternatively, the experiments of Aspinwall (1998) and Fredrickson and Joiner (2002) demonstrate that positive emotions broaden the scope of cognition and enable flexible and creative thinking.

Furthermore, the three dimensions of student engagement each represent a level of student engagement. Some researchers argue that these dimensions interact with each other to affect students' level of engagement (Trowler, 2010). An experience that reflects compliance with expectations and norms indicates

internalization and approval, and is thus seen to be productive; whereas an experience that challenges, confronts or rejects can be disruptive, delaying or obstructive, and is thus seen as counter-productive. Thus, one can engage either positively or negatively in the behavioural, emotional or cognitive dimensions. It is perfectly conceivable for a student to engage positively in one or more dimensions while engaging negatively in another or others, or to engage positively or negatively in one or more dimensions while not engaging in another or others (*ibid*). When a student engages positively in all three dimensions, the likelihood that the student will complete school and obtain desired outcomes increases (Morse et al., 2004).

Other researchers suggest that the more students engage positively along one dimension, the more positive the effect will be in the other dimensions. For instance, when students experience positive emotions they become more committed to school and identify more closely with the goals of schooling, which in turn inspires more active participation in academic activities. Conversely, the experience of negative feelings about school (e.g. boredom, feeling rejected or detached) may lead to weakened commitment, which inhibits active participation in school-based activities (Fredrickson and Joiner, 2002).

3.4 Research evidence for student engagement with schooling

Since the middle of 1990s up to the present day, student engagement has been characterized as one of the most important issues faced by the contemporary educational system in general and independent educators in particular (Conner and Fraser, 2011; Jang et al., 2010; Kraft and Dougherty, 2013). Such attention to the concept is entirely reasonable and easily understandable, as students who are well engaged with schooling are more likely to become lifelong learners, and more likely to remain at school to complete their education (Holland and Andre, 1987; Mahoney and Cairns, 1997; Marks, 2000; Phillips et al., 2015; Shernoff et al., 2003; Taylor and Parsons, 2011; Wang and Eccles, 2013). Those students who resist engagement are more likely to drop out of school. Educators are obviously primarily interested in enhancing student engagement because it is one of the major drivers of student retention and improved academic performance (Conner and Fraser, 2011; Jang et al., 2010; Kraft and Dougherty, 2013; Phillips et al., 2015). Given the importance accorded to the concept of student engagement, it is reasonable for the present study to seek to identify theoretical and practical approaches that will further enhance engagement as a means of ensuring that students enjoy learning, remain in school and succeed in their studies.

It is estimated that 25% to 60% of U.S. students are disengaged from school (Klem and Connell, 2004; Willms, 2003; OECD, 2010). This phenomenon is not unique to the United States and appears to be common and widespread. In a study using data from the Program for International Student Assessment 2000, Willms (2003) found that 25% of students in the 43 countries reported a low sense of belonging, and 20% of students reported low participation. Lack of student engagement with schooling has recently been a serious concern for educators and policy makers because disengaged students are more likely to struggle academically, to have problem behaviours, and to drop out of school altogether (Fredricks et al., 2004). Taking a developmental perspective, academic failure and dropping out are not isolated events but the result of a long-term process or disengagement from school (Alexander et al., 1997; Randolph et al., 2004). Thus, enhancing student engagement may help prevent these poor student outcomes.

3.4.1 Individual characteristics of students and student engagement with schooling

(i) Gender

Although there have been few studies of the relationship between student engagement with schooling and gender, the results of those that have been undertaken are compelling, with girls being consistently found to be more engaged than boys at all levels (Finn, 1989 cited in Marks, 2000). Furthermore, literature on the relationship between academic performance and engagement, broken down by gender, reveals differences in favour of girls (Finn, 1989 cited in Marks, 2000; Freudenthaler et al., 2008). Lam et al. (2014) studied differences in engagement in 12 countries and found girls to have significantly higher levels of engagement than boys. Other studies have found differences in the sense of belonging (Furrer and Skinner, 2003) and satisfaction with school, in favour of girls (Smith et al., 2010). Studies also suggest that boys are less motivated to study, dedicate less time to the accomplishment of homework and, present lower educational expectations (Gil-Flores et al., 2011; Veiga et al., 2016). Girls, in turn, have higher aspirations and are more proficient in achieving their academic goals (Veiga et al., 2016). According to the literature, levels of behavioural, emotional and cognitive engagement differ significantly by gender. Considering the cognitive dimension of engagement with school, Kenney-Benson et al. (2006) argue that girls tend to stand out with regard to planning, regulating and monitoring academic activities. Boys use fewer learning strategies and girls assume more responsibilities for their academic flaws (Ghazvini and Khajehpour, 2011 in Veiga et al., 2016). Students' self-rating (Covell, 2010; Wang et al., 2011) has indicated that girls are more behaviourally engaged than boys. Examining the HSSSE report of 2006, Yazzie-Mintz (2007) found girls reported greater engagement than boys across all three dimensions (Yazzie-Mintz, 2007)

(ii) Age

Student engagement with schooling has also been studied in the context of age. Results from PISA 2000 (Willms, 2003) on the basis of over 315,000 students in 43 countries found that students are at peak levels of disengagement at the age of 15, which is normally a result of adolescent development. Research both in Australia (e.g. Hill and Russel, 1999) and in countries outside Europe (e.g. Olson, 2005) also observe a decline in students' enjoyment of school around this age, due to a mismatch between schooling and students' developmental needs. Schools are seen as failing students in a variety of ways: disciplinary and decision-making practices and policies deny emerging adolescents' need for autonomy and participation; the curriculum is experienced as fragmented and irrelevant; the transition from primary school to high school is poorly managed; and school life is increasingly oriented towards academic achievement at a time when the social needs of students are complex, changing and strongly felt. This puts nearly all students in their middle years of schooling at risk of disengagement (Murray et al., 2004). Eccles et al. (1993) support this idea, affirming that students are most motivated, and experience the highest levels of well-being when school environments meet their socio-emotional needs appropriately. Conversely, the lack of fit between students' socio-emotional needs and their school environment could also contribute to their decline in interest, participation and performance in secondary school. Although secondary school students are characterized by a tremendous need to feel competent, have a sense of autonomy and participate in social interaction, researchers suggest that current secondary school environments are not congruent with students' developmental needs (Wang et al, 2011; Wigfield et al., 2015). The possible causes of the mismatch include limited opportunities for student autonomy and decision-making, less caring and supportive teacher-student relationships, and increased teacher control, social comparison, and competition (Roeser et al., 2009; Wang et al., 2011). The literature on behavioural, emotional and cognitive engagement tends to show changes in these dimensions as student ages change. Fredricks et al. (2004) have identified falling emotional engagement levels among most students of this age, which result in decreased behavioural and cognitive engagement. Decreased behavioural and cognitive engagement can be clearly traced through truancy habits, absenteeism, early school leave, and dropping out of school (*ibid*). Finn in his many contributions (1989, 1993) takes the view that decreased behavioural and cognitive engagement is accompanied by many risks such as failure in examinations and dropping out of school. Studies by Alexander et al (1997; 2001) are notable examples of empirical research on the dropout process. Moreover, Wang and Eccles (2012) assert that most students at this stage demonstrate reduced behavioural engagement and that this leads to a decline in academic skills and fewer plans to undertake education in future. Finn et al. (1995) support this view, affirming that during adolescence, most students show

inattentive-withdrawal behaviour which has been associated with depressed academic performance. Furthermore, Wang et al. (2011) predict a decline in all three student engagement dimensions in secondary school students, but the extent of the decline varies. Wang et al. (2011) further found the decline in behavioural and cognitive engagement across secondary school years to be at an average level, and the decline in emotional engagement to be strong. In addition, they assert that the decline in emotional engagement is experienced first, followed by behavioural disengagement, with cognitive disengagement appearing afterwards. Taking a developmental perspective on disengagement, this suggests that significant effort and resources should be directed to supporting student engagement during secondary schooling.

(iii) Class level

Studies of student engagement with schooling have revealed that student engagement is also related to class level (grade level). According to Klem and Connell (2004), students become less engaged with schooling as they progress from elementary to middle school and from middle school to high school. Anderman and Midgley (1997) and Morse et al. (2004) also assert that numerous studies have shown student engagement with schooling decreases significantly for many students as they progress through school. Grade level can also be an indicator of engagement (Cooley and Leinhart, 1975 cited in Williams and Whiting, 2016) because students are exposed to different levels of subject matter according to grade level. For example, tenth graders are exposed to and expected to master different levels of mathematics than ninth graders (*ibid*). Most studies reveal that all three engagement dimensions decline as students progress through class levels. Looking at the HSSSE report of 2006, Yazzie-Mintz (2007) found that students reported being less engaged across all three dimensions in each successive grade from grades nine through twelve, i.e. across grade levels. Students in grade 9 reported being most engaged in all three dimensions, students in grade 10 reported lower levels of engagement than those in grade 9, students in grade 11 reported lower levels of engagement than those in either grade 9 or grade 10, and students in grade 12 reported lower levels of engagement than all other grades.

3.4.2 Schools' contextual variables and student engagement with schooling

While students' individual characteristics (student factors) are important for student engagement, this study also focuses on another factor, namely schools. Schools are not neutral settings but instead active settings that promote or constrain individual students' opportunities for school success (Baker and Green, 2009). By being active, schools are settings in which engagement occurs, as they influence students' motivational

levels. They are central to the daily life of most students and thus exert great influence on student engagement (Finn and Voelkl, 1993; Marks, 2000; Pellerin, 2005; Willms, 2003; OECD, 2010). Kenny et al., (2006) identify that student engagement is the result of dynamic interplay between individual students and the social and educational context of the school. Therefore, student engagement is responsive to changes in the school environment. While most students view school as essential to their long-term well-being, not all students feel that they belong at school and show less engagement in terms of their attitudes and behaviour (Willms, 2003; OECD, 2010).

Many correlational and non-experimental studies have shown that students who develop a sense of belonging with regard to their schools and their school communities make schools an important part of their own lives (Baker and Howe, 1998; Battistich et al., 1995; Ryan and Deci, 2000; Shouse, 1998; Skinner and Belmont, 1993; Wasley et al., 2000; Yowell, 1999). The sense of belonging can help to promote a feeling of self-worth and help students to become resilient learners, particularly if they are at risk of not completing school or in terms of other educational outcomes (Mahoney and Cairns, 1997). Such students report that caring and supportive interpersonal relationships at school lead to the development of more positive attitudes towards academic work and values and are more satisfied with school. Holland and Andre (1987), Mahoney and Cairns (1997), Marks (2000) assert that these students are affectively engaged, and that this can be determined from their responses on how they view their schools, the school environment, teachers and the school processes. These students show positive attitudes towards school and have deeper affection for school. They can therefore be said to be affectively engaged.

(i) School setting (school location, type or category)

Levels of student engagement have been found to vary from school to school even after controlling for students' individual characteristics. The variations can be attributed to schools' location, especially if location entails interference from surrounding neighbourhoods. The study from the Centre for Social Organization of Schools at Johns Hopkins University identified locations of high schools that had high promoting power and those that had poor or weak promoting power (Balfanz and Legters, 2004). Poverty appears to be the strongest correlate for areas with low promoting power. These are areas with a concentration of weak-promoting schools and as such students have little choice but to attend a school where graduation is not the norm. This shows that for many students, the location of the school they attend may be the strongest determining factor in whether they complete or drop out of school.

The variations also can be attributed to the type or category of the school. A school's category or type can create a certain image in students' minds and in effect influence their engagement with schooling. Roeser et al. (2009) assert that the category of a school, whether religious, public, boarding etc., can have a discernible effect on student engagement, because it affects students' perception of the kind of school they attend relative to other types or categories of schools. Community secondary schools in Tanzania, for instance, have been associated with low standards within the minds of most parents and students (Magambo, 2013), and this has had a detrimental effect on student engagement in these schools as evidenced by poor access and participation (Machumu, 2011). This has resulted in increased dropout rates for students from these schools (Masamalo, 2017) and increased and ongoing failure by most students from these schools in national examination results (Kaguo, 2011; Mligo and Mshana, 2018; Ntumva and Rwambali, 2013). On the other hand, observers of the research conducted by Christle and colleagues (Christle et al., 2007) noted that teachers dressed more professionally and seemed to supervise and interact with students more in LDOS (Low drop out of School) schools than in HDOS (High drop out of school) schools. Moreover, teachers in LDOS schools used a greater variety of teaching strategies, and student engagement was consequently higher than in HDOS schools.

(ii) School learning environments

School learning environments i.e., the various characteristics of schools have been linked to student engagement with schooling (Akey, 2006) and are said to have a strong influence on student engagement (Finn and Voelk, 1993; Marks, 2000; Pellerin, 2005; Willms, 2003). School learning environments are made up of a variety of factors such as school size, facilities (such as school and classroom infrastructure), amount of violence and corporal punishment, inclusiveness, teacher-student relationships, academic and disciplinary climate, number and kind of students found in school and instructional activities.

School size also has an impact on student engagement. Smaller schools appear to be conducive to more effective engagement: as Finn (1993) notes, smaller schools demonstrate wide range of factors that promote engagement, including higher levels of academic achievement, satisfaction, responsibility, attendance, morale and maturity. Several other studies have shown that students in smaller secondary schools have higher attendance rates (Lindsay, 1982) and are more likely to engage in range of extracurricular and social activities (Lindsay, 1982, Schoggen and Schoggen, 1988 cited in Finn, 1993).

School order and discipline are among the most important characteristic of a productive school culture and also promote student engagement (Finn, 1993). Students engage better in learning in an environment that

is safe, and free from noisy and distraction. Furthermore, there is evidence indicating that clear, reasonable rules, fairly and consistently enforced, not only can reduce behaviour problems that interfere with learning but also can promote feelings of pride and responsibility in the school community (Purkey and Smith, 1983 cited in Finn, 1993). School rules and regulations that are more flexible achieve lower levels of student commitment than tighter rules. In that sense, students who are behaviourally engaged (who adhere to school rules, avoid disruptive behaviours) and affectively engaged (who feel personally accepted and respected by others) get better grades and aspire to higher education (Akey, 2006; Wang et al., 2011; Wang and Degol, 2014; Wentzel et al., 2010)

Regarding teachers' impact on students learning, there is an increased likelihood that students will be engaged where teachers are actively using a variety of strategies to improve classroom practice. Teachers whose lesson planning takes greater account of the needs of individual learners, setting clear expectations when planning lessons, proposing learning outcomes for individuals and groups, and regularly reminding students of learning objectives during lessons are the ones who successfully engage students. Moreover, teachers who succeed best in engaging students with their lessons are those who actively involve all students through the use of challenging resources and materials; who deploy a wide range of teaching strategies, especially those that require students to think for themselves; who welcome student feedback on how teaching could be improved and how students could learn more effectively; and who adopt assessment for learning (AfL) strategies such as asking probing questions to prompt students to explain and justify their answers. These are also the kind of teachers that students perceive as supportive (Daw and Robinson, 2013). This shows that teachers are an important factor in student engagement and reduce the likelihood of drop out. Moreover, teachers' behaviours and characteristics have a great deal of influence on student engagement and ultimately, outcomes. Ryan and Patrick's assessment (2001) of emotional support in the classroom, for instance, analysed students' perceptions of how respectful, responsive and sensitive their teachers were, and revealed that when students perceive that their teachers care for, understand and support them, the students' communication with their teachers became more effective and relations with their teachers improved. The study also showed that such students engaged in more self-regulated learning, were less likely to go off-task and demonstrated lower levels of disruptive behaviour in the classroom. Klem and Connell (2004) also examined the impact of teacher support on student engagement and found student engagement with schooling to be higher among secondary school students who were taught by teachers that the students perceived as caring and supportive of autonomy, and who created well-structured learning environments. Research by Brackett et al. (2011) and Reyes et al. (2012) which utilized observations of

classroom emotional support, provides evidence that emotional support from teachers helps students to adjust to school. Furthermore, Reyes et al. (2012) documented that classroom emotional support has a positive impact on learning that is both directly and indirectly mediated by student engagement (students' perceptions of their effort, interest in and enjoyment of learning activities). Allen (2013) also found that emotional support in the classroom was the best predictor of student engagement. Classrooms with high emotional support meet students' fundamental psychological need for relatedness (Connell and Wellborn, 1991; Ryan and Deci, 2000) and this is then reflected in student behavioural engagement and successful learning. Therefore, feeling secure and at ease is a prerequisite for achieving the necessary mental readiness for challenging tasks (Virtanen et al., 2015). Hence, emotional support from teachers serves to improve the emotional wellbeings of students, is a precondition for increasing desirable behaviours and sets the stage for better academic outcomes.

School and classroom infrastructure, facilities and physical resources are also essential to the promotion of student engagement. High-quality instruction can take place in a variety of environments; however, well-maintained school and classroom infrastructure, including facilities and resources, has a positive impact on student engagement (Jones et al., 2008; Veiga, 2016). A variety of studies (Appleton et al., 2008; Burden, 2008; Roeser et al., 2009) demonstrate that students perceive their classroom structure as mastery or performance oriented, with their personal goals positively associated with the corresponding structure. Performance oriented structures, for example, affect engagement because they influence students' trust in their capacity to be successful in school-oriented tasks (Roeser et al., 2009), by encouraging social comparison within classroom. On the other hand, a mastery orientation will allow students to experience the feeling of success (Linnenbrink and Pintrich, 2002), by promoting self-regulation and increasing students' confidence (Pintrich, 2000). On adding value to classrooms so as to promote student engagement, Jones et al. (2008) asserts that classrooms should be physically comfortable for students with respect to temperature, space, furniture, and structural organization. Classrooms also need to be mentally stimulating, with attractive displays that include samples of student work and colourful designs (Jones et al., 2008). Observers in the Christle et al. (2007) study noted a marked difference in the physical condition of the school facilities between LDOS schools and HDOS schools. They noted that the LDOS were cleaner, in better condition, and more orderly than the HDOS.

The maltreatment-free school environment demonstrates a positive school climate which is essential in promoting student engagement with schooling. Studies indicate that a positive school climate was

associated with higher behavioral, cognitive, and emotional engagement of students across all grades (Yang et al., 2018). The maltreatment-free school environment is the environment in which students are able to relate with their teachers, their fellow students, or non-teaching staff at the school without experiencing any form of violence, abuse, bullying, or neglectful behaviors from them (Nkuba et al., 2018). Students engage more in the maltreatment-free school environment, that is, when they do not experience any form of violence from teachers and non-teaching staff and bullying behaviours from their fellow students at school. In Tanzanian secondary schools, however, the situation is different. Despite the Tanzanian government limiting corporal punishment to four strokes in schools under the National Education (Corporal Punishment) regulation of 1979 (URT, 2020a), students are still receiving different kinds of maltreatment. It has been found by Feinstein and Mwahombela (2010), Kaltenbach et al. (2018), and Stein et al. (2019) that secondary school students receive different kinds of violence and harsh punishment from their teachers and also bullying behaviours from their fellow students. Elaborating clearly on this situation, Stein et al. (2016) and Stein et al. (2019) assert that students experience emotional, physical, and sexual violence from their teachers and bullying behaviors from their fellow students. The studies in the Rulenge-Ngara Region (Stein et al., 2016) as well the Lake Region (Stein et al., 2019) pointed out that almost all students experienced emotional and physical abuse by teachers and even a relatively high amount of about five percent also sexual abuse. The form of emotional and physical violence from teachers are being beaten, threats of being beaten, insulting, shouting, calling names, spanking, threatening to spank, and hitting for bad performance and bad behaviour. The forms of bullying from their fellow students are defaming, stealing, insulting, isolation (excluding someone from a group), and forcing someone to give money or things. These acts of violence and bullying behaviors result in various negative consequences including emotional disturbances, physical and mental distress, and different sorts of injuries like bleeding, fractures, and black eyes (*ibid*) and in turn put students at the risk of decrease their engagement with schooling or destroy completely their educational life when students drop out of school. Garcia (2019) and Cornell et al. (2015) state that violence and bullying behaviours are negatively related to student engagement. They affect students' individual learning, behavioural involvement in their classrooms and schools, and their feelings of belonging to school (Garcia, 2019, Juvonen et al., 2011). This results in students being less likely to push themselves in school and to find the school to be a valuable experience (*ibid*).

(iii) Academic subjects, examinations and academic achievement

Several studies have indicated that there is a close relationship between student engagement and the subjects or courses studied. The structure and organization of subjects or courses, including development,

resource design, and syllabus, teaching strategies, and overall planning before, during and after delivery have a significant influence on student engagement (Gray and DiLoreto, 2016). The advice is that subject/course structure should be logically organized, user-friendly and provide detailed student learning objectives (Eom et al., 2006). Furthermore, Eom et al., (2006) argue that students who have a positive perception of the overall usability of a subject/course are likely to be satisfied and then engaged more in their learning. In other words, the more organized and logical the subject/course layout, the more likely students are to be engaged with their learning (*ibid*). On the other hand, there are studies which show that students engage more with learning tasks if they are going to be assessed, with marks attached (Brown and Hirschfeld, 2008; Lovatt et al., 2007; Rust, 2002). On this, Lovatt et al. (2007) contend that there is a tendency for students to focus more on their studies in the weeks prior to examinations rather than engaging with materials throughout the semester. Escalona et al. (2018) also argue that students engage more with schooling before examinations by collecting study materials, organizing their learning and intensifying their study habits. It has been observed by Cole and Spence (2012) also that continuous assessment leads to increased attendance and improved examination performance. Therefore, Brown and Hirschfeld (2008) advise that increased engagement with subjects can be encouraged through the careful design and development of assessment schemes. There is also literature, Mennenga (2013), for instance, that associates student engagement with academic achievement such as examination outcomes. However, some researchers have found weak or no association between student engagement and academic achievement, arguing that some students who achieve good grades devote less time to study because they learn quickly, and that some students who achieve poor grades do not have strong skills foundations, even though they attempt to engage more (Appleton et al., 2006; Shernoff and Schmidt, 2008).

3.5 Promoting student engagement

Research on student engagement originally focused on ways of re-engaging students who were at risk of disengaging from schools, especially those students who were seen as being at risk of dropping out (Murray et al., 2004). Over time, student engagement strategies were developed and implemented more broadly as a means of managing behaviour in classrooms (*ibid*). More recently, the primary focus of student engagement has been on mainstream schooling and its responsibility to meet the diversity of student needs and perspectives. Student engagement has become both a strategic process for enhancing all students' experiences in schools, in order to make students lifelong learners and to manage all other areas of life in

future. As Lounsbury (1996) says, when there is a need to improve education for all students, there is no need for special programs for some students because they are at risk of failing; not because they cannot learn but because schools have not adequately engaged them and provided experiences that are seen by those students as worth engaging with. Consequently, different studies now recognize that more than one factor is involved with promoting student engagement (Morse et al., 2004; Finn et al., 1995). The key activities are systematic monitoring of students for the warning signs of disengagement (such as poor attendance, poor academic performance, behaviour problems, decreased participation in the school environment, isolation from peers, and insufficient credits earned toward graduation) and following up with students who are showing these early signs, so as to head off drop outs and poor academic outcomes. Other studies advocate the improvement of students' experience of schooling through measures aimed at increasing engagement, including better student management inside and outside classrooms, manageable school rules, increased teachers-student collaboration, and the creation of conducive environments (Appleton, 2006; Finn and Zimmer, 2012).

3.5.1 Cognitive promotion

Cognitive engagement can be boosted by providing students with opportunities to participate in school decision-making processes and to regulate and direct their own learning. Research emphasizes the importance of encouraging students to take responsibility for their own learning and for being self-determined and autonomous learners (McCombs, 1984). When students feel that they are in control of their decisions, as well being more likely to take such responsibility, they are more motivated to persist with tasks and strive for positive results. Students' sense of purpose is also enhanced because research shows that students value learning that they consider meaningful and relevant. Instruction is relevant to learners when they can relate what is being learned to their future goals and aspirations. Teachers should also understand the relevance of assignments to students' personal lives and future aspirations rather than emphasizing that students learn materials simply because they will be tested on it (*ibid*). Best practice as set out by Stipek (1996) is to present students with appropriately challenging tasks that allow them to compete with some effort. Thus, teachers should be encouraged to provide tasks that are moderately challenging and are differentiated to take account of diverse students and varying skills levels so as to ensure that all students are actively involved. Activities that only work at one level of difficulty will only be challenging to a small proportion of students. To maximize involvement by as many students as possible, there should be varying degrees of difficulty within a task and multiple tasks with different levels of difficulty. Student engagement can also be enhanced by allowing students whenever possible to select

learning activities and assignments, help develop their own learning goals, and take the lead in deciding whether to work in groups or independently.

3.5.2 Behavioural promotion

Behavioural engagement can be enhanced by opening up students to variety of school-wide extracurricular activities (such as clubs, football and netball matches) that build connections with school, foster positive relationships, and are related to improved school performance. Schools should encourage school-wide discipline policies that are publicized, fair, and applied to all students and which are associated with low dropout rates (Rumberger, 1995). Schools should make sure they take advantage of opportunities to recognize all students rather than a small proportion, for instance through rewards, and suspensions.

3.5.3 Emotional promotion

Schools should promote caring relationships with their students through their teachers, administrators and other non-teaching staff. This should be at all levels. Teachers who feel that schools and administrations are genuinely interested in and supportive of their work are likely to pass on the same interest and support to their students. Another way to promote the development of caring relationships is to recognize all kinds of student and teacher activities (core-curricular, extra-curricular and hidden curricular) (Reyes et al., 2012).

3.6 Student engagement with schooling and student involvement

Schooling is influenced by how individual students participate in educationally purposeful activities. Although it also depends on institutions and staff providing students with the conditions, opportunities and expectations to become involved, however, individual learners are ultimately the main agents in schooling. Without students schooling is void. Students are best placed to provide information on how far they are engaged with their educational experiences. It has been discovered that giving students a voice brings about important changes in the culture, structure and practices of individual schools (Yazzie-Mintz, 2007). When given the opportunity, students are very clear and eloquent in expressing their thoughts about schooling and the whole of their educational experience. Schwab et al. (2018) point out that attention is rarely paid to what students have to say about their education, which could be a major gap in the research given the rhetoric around student-centred education and valuing the student voice. Considering that students are the primary consumers of educational services, their voices need to be captured (*ibid*). Furthermore, it can be

argued that failure to obtain students' views about their experiences of education can significantly increase their chances of disengaging (Dunleavy, 2008; Schwab et al., 2018).

How students engage with their schooling can be explored through the views of various agents such as teachers, parents, and other stakeholders, but the best exploration of how students engage with their schooling comes from the students themselves (Yazzie-Mintz, 2007). Students' deeply-held attitudes, perceptions and beliefs are better explored when they are gleaned from students themselves (*ibid*). Thus, some research centres have established projects that periodically seek students' views on how they engage with their schooling experiences, such as the High School Survey of Student Engagement (HSSSE) at Indiana University in Boomington (Yazzie-Mintz, 2007), the Australasian Survey of Student Engagement (AUSSE) and PISA studies.

3.7 Equality of Educational Opportunity (EEO)

Many countries in the contemporary world create conditions for equality of educational opportunity within the framework of their education policies (Myasnikov et al., 2019). Most of them have realized that to achieve a sustainable society inclusive education is inevitable because it guarantees the presence, participation, and progress of all students (UNESCO, 2017). This followed after the United Nations General Assembly call for all United Nations to end poverty, protect the planet and ensure that by 2030 all people enjoy peace and prosperity through the blueprint Sustainable Development Goals (SDGs). The SDG 4.5 stipulates clearly that all people, irrespective of sex, age, colour, ethnicity, language, religion, region, political or other options, national or social origin, property or birth, as well as persons with disabilities, migrants, indigenous people, and children and youth, especially those in vulnerable situations or another status, should have access to inclusive, equitable quality education and lifelong learning opportunities. In order to ensure equitable and inclusive secondary education, many nations including sub-Saharan countries such as Kenya, Nigeria and Tanzania, designed different strategies to ensure equitable access to secondary education (Barasa, 2007; Jidamva, 2012; Lewin, 2007). In Tanzania for instance, access to secondary education is done through Primary School Leaving Examination (PSLE). The Tanzania Government through the MoEST selects the primary school students to join secondary school through PSLE which selects students on the basis of their intellectual abilities only irrespective of other characteristics such as gender, location, religion and social status (URT, 2004). This strategy is also applied by many countries and state governments in removing barriers to acquiring secondary education and distributing the available educational opportunities to as many young individuals as possible who have ability to acquire secondary

school (Myasnikov et al., 2019). The strategy requires the students who are considered most able to join secondary education and proceed through each successive class level within secondary education in respect of their intellectual abilities. This means the educational opportunities are distributed unequally to all students who are able to proceed with secondary education with respect only to their intellectual abilities (ibid). Therefore, at their entrance to secondary education, all students are regarded equal in terms of their intellectual abilities only. Students are allowed also to progress into other succeeding levels within secondary education in terms of their intellectual abilities only irrespective of other differences. This strategy ensures inclusive education for secondary school students throughout their secondary schooling.

On ensuring equitable participation of students, which means equality of educational participation, many educational policies of countries and state governments have been designed to distribute educational opportunities in an equal manner based on students' efforts and abilities. One of the strategies which are done is to distribute goods and treatments universally and equally so that they are at the same level for every individual student within the population group or across groups (Metsamuuronen, 2019). From a rights of citizenship perspective, students of a certain level are seen as all equal and therefore all deserving equal treatment. Public expenditure on education per student, for instance, is distributed equally to each secondary school student. There are also an equal supply of different kinds and the number of school facilities in relation to the number of students found in schools, equal teaching time, equal curriculum, same school fees and the like. This is done in order to equate students. In Tanzania, the secondary school fees were phased out for the same purpose, and a capitation grant was introduced in each school relative to the number of students available in each school (URT, 2004, 2010). Another strategy which is done is to distribute some educational opportunities unequally to compensate for existing disadvantages in deprived areas. Examples of deprived areas are such as historically disadvantaged regions, hostile areas and poverty areas. This is normally done by either providing more educational expenditure per student in those areas or providing students with incentives such as afternoon lunch, transport, etc. Besides the above, another strategy is through compensating for differences in each individual student who has been affected by certain circumstances such as student from an immigrant family, a homeless family, a certain race and the like (Maclean, 2003). This also includes girls in ethnic groups which devalue the status of girls in societies. The strategy can be executed in a number of ways such as motivating the affected students' teachers to use extra time and help them, being subjected to remedial classes, and the use of guidance and counselling services.

In implementing these strategies, schools should be effective enough in utilizing the supplied resources and be responsive to each student studying in those schools. The schools should also be given tasks to make

sure that the minimum standards are being equally met across different population groups, for instance, students of the required age to join secondary education, the ratio between female and male students be observed and students of all localities able to access secondary education. Furthermore, schools should be responsible to make sure that each student has access to every opportunity available, and making each one exploit those opportunities at the optimum level. This means that the schools have an instrumental role to develop students' talents and intelligencies to the fullest (Aksu and Canturk, 2015; Meyer, 2016).

Equality of educational participation, therefore, is important because it provides a fair starting point for each learner. It points directly toward the most disadvantaged groups who can then be targeted by policy, and it requires every student participating at any level of education to be subjected to a high quality of education. This brings the societies to use all the essential capabilities which could otherwise be lost if this principle is not taken into consideration.

3.8 Gaps in the literature

Recently, student engagement has been receiving attention as a means of improving and developing students' experiences of schooling. Many research projects dealing with student engagement are therefore being conducted, especially in developing countries, focusing on everything from small groups to huge cohorts across countries and continents (Gemici and Lu, 2014; Willms, 2003; Tan, 2011, 2015). Much recent literature is also focused on student engagement, and many projects are diversifying the concept of student engagement to include a number of dimensions. However, although this relatively new field of research is gaining in importance, it is developing more slowly in most African countries, especially in countries such as South Africa, Nigeria, Kenya and Tanzania (Wawrzynski et al., 2012; Iroegbu and Agboola, 2019; Wara et al., 2018)

On the other hand, much recent research and literature on student engagement focuses primarily on students at risk of early dropout. While this is clearly one important endpoint of disengagement, attention has not been given to broader issues of student engagement. Most research projects treat student engagement as an intervention to prevent school dropout (Archambault et al., 2009; Christle et al., 2007; Finn, 1989; Masamalo, 2017; Murray et al., 2004; Stevenson et al., 2019). This has caused the literature on 'at risk' students to receive criticism for promoting a 'deficit' model that blames the victim, stigmatizes individual students and diverts 'labelled' children into specific programs instead of tasking mainstream schooling with meeting the diversity of student needs and addressing the full range of perspectives (Finn, 1989).

This has meant there is relatively little research on students whose achievement is satisfactory but who may be affectively disengaged, withdrawn, or passively compliant. Because of their satisfactory achievement, they may be seen to be engaged with their schooling and attract little attention. However, such students may be at risk of underachievement or psychosocial problems if no or little attempt is made to engage them. Moreover, evidence points to the likelihood that sometimes students who perform satisfactorily at school may not be fully engaged, may experience difficulties in education beyond secondary school, and may be more likely to experience further psychological and social difficulties in adulthood (Lounsbury, 1996).

Most recent research and literature also focus on the association between student engagement and the outcome of educational processes such as satisfaction, persistence and academic performances; or else it examines the effects of student engagement on the outcomes of the educational processes. This work treats student engagement as an educational outcome, and most of it focuses only on the link between student engagement and selected predictors of student engagement (Akey, 2006; Carini et al., 2006; Randolph et al., 2004; Trowler, 2010; Wonglorsaichon et al., 2014). The few remaining projects treat student engagement either as a mediator between certain predictors (such as socioeconomic status) and educational outcomes (such as academic performance); or as an important school outcome in its own right (Amir et al., 2014; Berkowitz et al, 2017; Fullarton, 2002; Shernoff et al., 2017; Veiga et al., 2016). In this latter category, there are scarcity of research into students' characteristics and school characteristics as predictors of student engagement.

With the growth of the metaconstruct of student engagement, and its inclusion of a number of different dimensions, most researchers agree that student engagement is a multidimensional construct, and many researchers have thus been studying those dimensions. Much research has tended to look at only one or two dimensions (Hassaskhah et al., 2012; Nguyen et al., 2018; Wara et al., 2018) and a few researchers have investigated three or four dimensions, or concentrated specifically on the associations between them (Archambault et al., 2009; Pagan, 2018; Veiga and Robu, 2014; Wang and Eccles, 2013). There is very little research, however, into the causality between dimensions. Few models exist that postulate predictive interrelationships between all of the dimensions of engagement (many models deal with pairs of relationships: behavioural-emotional, behavioural-cognitive, or emotional-cognitive). The present study therefore investigated three dimensions of engagement together (emotional, cognitive and behavioural) and the extent of their prevalence in all the students under study and in students in two school categories (NSS

and SSAL). The study did not go further and investigate the relationships between dimensions, nor did it investigate the causation of any one dimension by another.

Among the many self-reporting exercises that have been undertaken, this study has found few from Tanzania, and none yet that focus on measures of student engagement, in particular with regard to three dimensions of engagement (emotional, cognitive and behavioural). Moreover, this study has yet to find any research that relates student engagement to principles of equity and equality such as EEO.

This present research therefore, investigated student engagement as an outcome of certain student and school characteristics, and enhanced its investigations by assessing student engagement in the context of equality of educational participation as a factor of EEO. More specifically, the study selected two regions, Dar es Salaam and Mtwara, located in the coastal zone of Tanzania, and assessed student engagement with schooling in government (public) secondary schools. The study selected a diverse range of students (such as underperforming and high-performing, high SES and low SES, those at risk of dropping out and those making good progress) as the primary agents of educational processes, and investigated their perceptions of and attitudes towards engagement with their schooling without segregating them.

CHAPTER FOUR

4. METHODOLOGY

As described in Chapter 1, the purpose of this study was to assess the engagement of secondary school students with schooling in two coastal regions of Tanzania, Dar es Salaam and Mtwara, in the context of EEO. Assessment focused particularly on how individual student characteristics and school contextual variables influence student engagement with schooling in the context of EEO. Utilizing the theoretical constructs derived from the reviewed literature, this study researched the engagement of individual students and subgroups of students in schools within the study area. This chapter describes the methods and procedures used, including research questions, research design, population and the sample. It also presents the research instrument and data collection techniques. Finally, the chapter discusses the data analysis process used.

4.1 Methodological Rationale

Much of the previous research on student engagement with schooling in secondary schools has taken a quantitative approach. While these quantitative studies have provided some insight into the conditions for student engagement with schooling in secondary schools, an examination of student engagement with schooling from a different theoretical perspective and utilizing research variables that differ from previous studies will add to the available body of research. A further, large-scale survey with a specific focus on structure would generate quantitative data to further illuminate student engagement with schooling in secondary schools in the particular study area and in Tanzania in general.

This study therefore adopted a quantitative strategy in relation to the collection and analysis of data in order to gain sufficiently broad descriptive data to provide findings (Brown and Dowling, 1998). The strategy took a deductive approach to the relationship between theory and research (Bryman, 2012) and can be credibly applied to the wider population from which the study sample was drawn. The research questions were therefore designed to elicit quantifiable data about engagement of secondary school students with schooling in Dar es Salaam and Mtwara.

4.2 Research Questions

The study addressed the following primary question: **How do secondary school students engage with schooling in two coastal regions (Dar es Salaam and Mtwara) of Tanzania?** Six specific questions were derived from this primary question and hypotheses formulated.

Specific questions

Descriptive question 1

To what extent are students engaged with schooling in the selected schools?

Inferential question 1

Are there differences between students' characteristics in relation to their engagement with schooling?

H0₁: There is no significant difference between the means for male students and the means for female students in relation to student engagement with schooling

H0₂: There is no significant difference between the means for student age groups in relation to student engagement with schooling.

H0₃: There is no significant difference between the means for student class levels in relation to student engagement with schooling

Descriptive question 2

What are the emotional, behavioral and cognitive engagement dimension levels of all secondary school students at the selected schools?

Descriptive question 3

What differences are there in emotional, behavioural and cognitive engagement levels between the SSAL and NSS students?

Inferential question 2

Are there differences in student engagement with schooling within the study area?

H0₁: There is no significant difference between the four selected districts in relation to student engagement with schooling

H0₂: There is no significant difference between Mtwara region and Dar es Salaam region in relation to student engagement with schooling

Descriptive question 4

How can the findings of this study pertaining to student engagement be related to EEO?

4.3 Study Design

This study is a non-experimental quantitative research project designed to describe how students engage with their schooling for the purpose of determining EEO. The quantitative research strategy chosen was a cross-sectional survey design which enabled examination of variations in all the variables under consideration (Bryman, 2012; Kothari, 2004). In this case the variables examined were student perceptions and attitudes on school setting and learning environment, academic subjects, examinations and academic achievement, and; on the other hand student age, gender and class level. More specifically, the correlational survey was selected because it enabled examination of more than one case (*ibid*). 1031 students from 16 schools across 4 districts and 2 regions participated in the study. Another reason for choosing a cross-sectional survey was that variables were not time ordered; data were collected more or less simultaneously and the researcher did not manipulate any variables (*ibid*). The cross-sectional survey design also enabled a large amount of data to be collected within a short period of time, which necessitated a systematic and standardized method for gauging variation. This type of approach is advantageous because quantification provides the researcher with a consistent benchmark (Bryman, 2012). In order to make the project design more feasible, sample pre-testing was undertaken prior to data collection.

4.4 Study Area

The study was conducted in the coastal zone of Tanzania as shown in the map (Figure 3). Two regions within this zone, namely Dar es Salaam and Mtwara, were selected for inclusion in the study, and engagement on the part of individual students and groups of students within the districts and regions was compared. The two regions have different characteristics, including in the nature of their population (as mentioned earlier) and the distance between them (about 6400 kilometres), and they are separated by the regions of Pwani and Lindi. The study assumed that the differences between these regions could influence the perceptions and attitudes of their schools and other contextual variables despite the fact that the

Tanzanian government have sole responsibility for the provision of education in all the country’s secondary schools.

These two regions were also chosen for inclusion in the study because it was assumed that the differences in the academic performance of secondary schools in these regions might affect students’ perceptions and attitude, and thus affect students’ engagement with their schooling. Most of the best performing schools and students as well as the least performing schools and students in the country are located in the Dar es Salaam region and the neighbouring regions of Pwani and Morogoro as well as in Mtwara region and the neighbouring region of Lindi. The map below shows the location of Mtwara and Dar es Salaam.

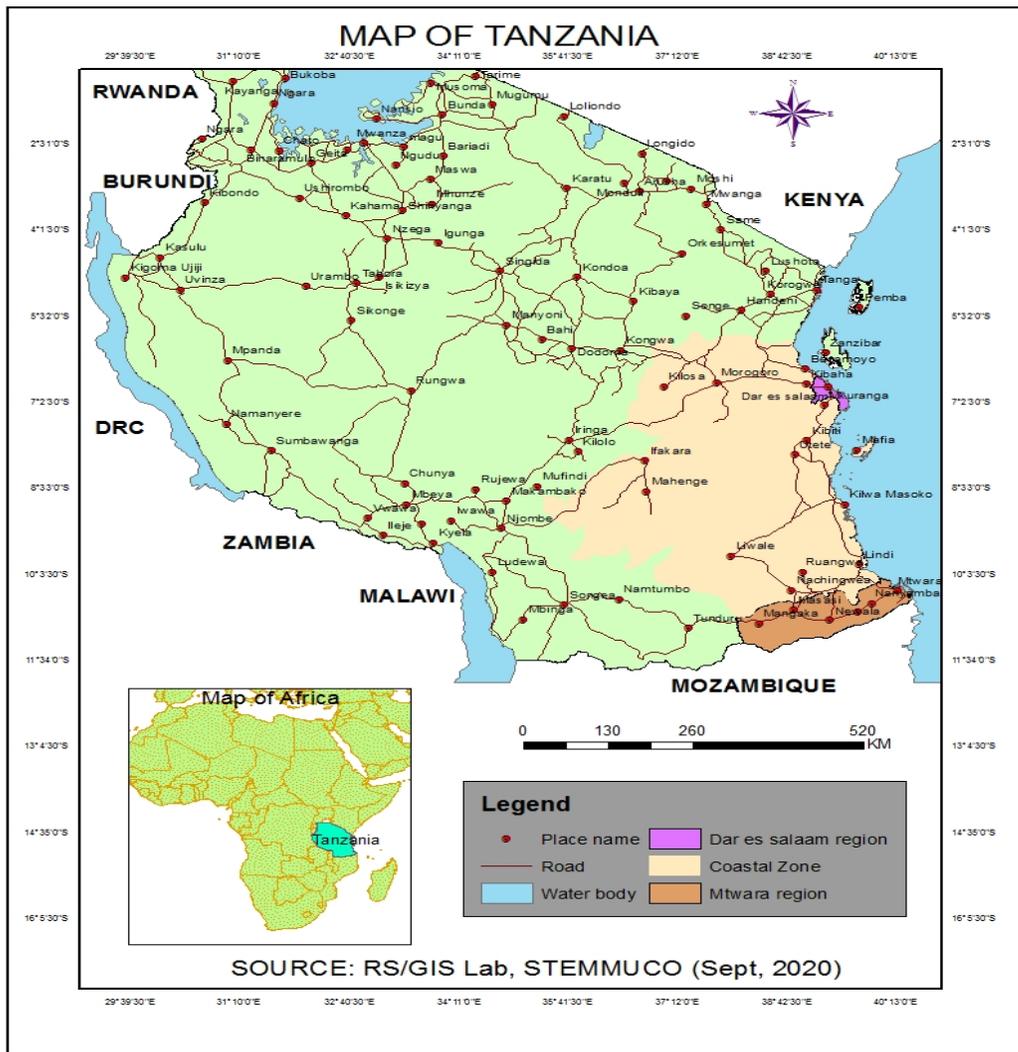


Figure 3: Map of Tanzania showing Dar es Salaam and Mtwara within the coastal zone. Source: *RS/GIS Lab, STEMMUCO (Sept, 2020)*

Dar es Salaam region is found in the East of the coastal zone. It borders the Indian Ocean to the East, and the Pwani region in the North, West and South. Dar es Salaam is the first and largest commercial city in Tanzania, and has a population of more than 5.5 million across 1,590 square kilometres. The inhabitants of Dar es Salaam are a mixture of natives (popularly known as Zaramo, and in the minority), and arrivals from different regions of Tanzania (in the majority), with a few from neighbouring countries and abroad. Dar es Salaam has five administrative districts, namely Kigamboni, Ubungo, Kinondoni, Ilala and Temeke.

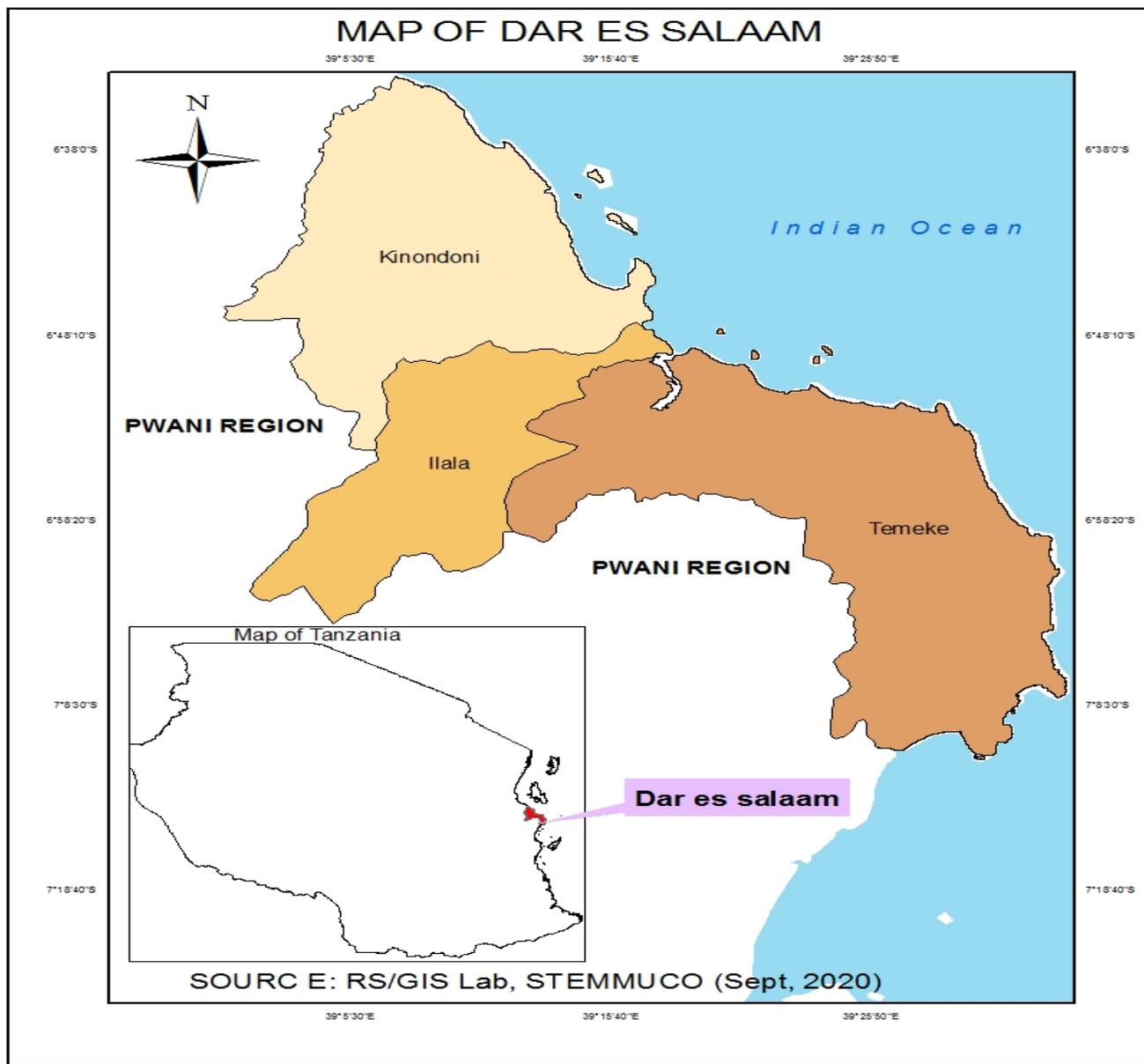


Figure 4: Map of Dar Es Salaam Showing the two Districts of Ilala and Temeke. Source: *Rs/Gis Lab, STEMMUCO (Sept, 2020)*

Mtwara region is in the south of the coastal zone and borders Indian Ocean to the east, Lindi region to the north, Ruvuma region to the west and Mozambique to the south. Mtwara has approximately 1.5 million inhabitants over 16,710 square kilometres. The majority of the region's inhabitants are makonde, makua, yao and mwera natives, but there are also small numbers of people from other regions and neighbouring countries. Mtwara has five administrative districts: Mtwara Urban, Mtwara District, Tandahimba, Newala and Nanyumbu.

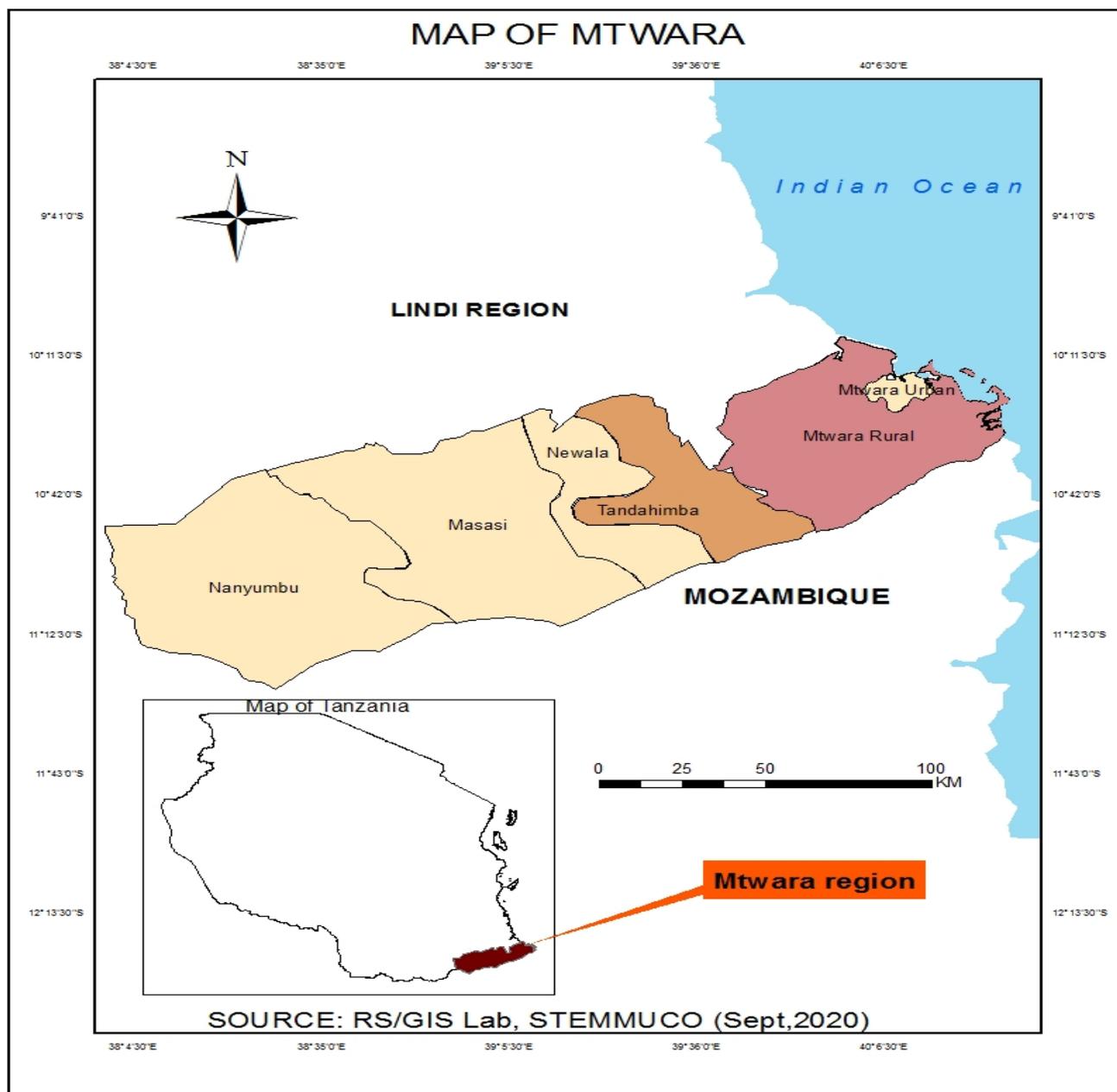


Figure 5: Map of Mtwara showing the districts of Mtwara and Tandahimba. Source: *Rs/Gis Lab, STEMMUCO (Sept, 2020)*

4.5 Context of the study

The study was composed of the students of the government secondary schools within the districts and regions identified. Government secondary school students were used because all these students are enrolled in school on the same basis, as set out by the government, namely that they have performed at an appropriate level in the Primary School Leaving Examination (PSLE). The PSLE is the examination taken by all pupils who have completed seven years of primary education as provided by the Tanzanian government, thus the selection of these pupils to join government secondary schools does not discriminate against any Tanzanian student on the grounds of status, colour, gender, creed, etc. The study thus assumed that all students in government secondary schools meet the conditions set by the government for accessing this level of education.

The study also focussed on government secondary schools for reasons of educational participation. Firstly, these schools teach to the same curriculum, so it could be anticipated that they delivered an equivalent quantity and quality of secondary education. The study assumed, for instance, that each student was studying an equal number of school subjects, and benefited from an equal number of lessons and/or teaching time, an equal amount of instructional materials such as textbooks and study guides, and equivalent formative and summative assessment such as classroom tests, zonal examinations and national examinations. Furthermore, the study assumed that both secondary schools received equivalent numbers and an equivalent quality of human and non-human resources, including infrastructure such as water, electricity, internet access, working toilets, safe and comfortable classrooms, security, libraries, laboratories and sports facilities; teachers, educational administrators, cooks where appropriate, watchmen, secretaries, bursars, cleaners, etc. In addition, the study assumed that students at both schools would have received equivalent instruction, i.e., that each student would have experienced the same pre-determined strategies, methods and activities such as discussions, role plays, study trips, debates and experiments, in order to enable them to attain the prescribed objectives in each of the subjects they were studying. Second, it was assumed that students' educational outcomes in these kinds of schools, as defined by performance in national examinations, would be the result of carefully gauged processes, judgments and evaluations, and that the correct student results would be available so as to enable student-student, school-school, district-region-country, and other comparisons. Third, these kinds of secondary schools are distributed more evenly across the districts in each region of Tanzania so as to be able to cater easily for all students selected to attend such schools.

4.6 The population

Although it would have been easier and more economical to study schools in a single district, this was an inter-district and inter-regional study. The 90 government secondary schools in Ilala and Temeke districts had around 70,000 O-level students enrolled, while Mtwara and Tandahimba's 39 government secondary schools had around 10,000 O-level students enrolled (URT, 2012a; URT, 2016). This study originally aimed to study the entire target population in order to be able to generalize its conclusions. However, due to budget and time constraints, and the geographical location of some of the schools, it was deemed more practical to identify a more accessible (study) population of O-level secondary school students in 16 secondary schools located in only 4 districts in the two regions under study. All the O-level government secondary school students from the 16 selected schools could potentially have been sampled, although particular attention was paid to the class levels the students were in. The study thus concentrated on students who were in their second, third and fourth years of study (i.e. form two, form three and form four), on the understanding that students in these classes had more experience of schooling, and the maturity to respond appropriately to the questionnaires. This would enable the study to be more confident in the students surveyed and the assumed variations between students' perceptions and attitudes. The number of students therefore drawn from these three class levels for each secondary school were as follows: Msimbati secondary school (88), Mustapha Sabodo secondary school (390), Nanguruwe secondary school (160), Ziwani secondary school (200), Kitama secondary school (218), Namikupa secondary school (138), Nandonde secondary school (153), Tandahimba secondary school (300), Benjamin William Mkapa secondary school (802), Dar es Salaam secondary school (563), Ilala secondary school (633), Majani ya chai secondary school (757), Kibasila secondary school (618), Mbagala secondary school (1192), Mbande secondary school (1041) and Temeke secondary school (967). These comprised a total of 4242 female students and 3978 male students. Similarly, the study was confident that the 16 schools selected would include both categories of government secondary schools, NSS and SSAL, and thus would meet one of the study's objectives. The survey was distributed in 4 SSAL and 12 NSS. A list of all schools was obtained from a MoEST database and the relevant district councils, while the number of the students enrolled was obtained from the Academic office of each secondary school. The listed schools and districts were labelled and classified accordingly so as to serve as a framework from which the sample was drawn.

4.7 The sample

A multi-stage cluster sampling technique was employed, followed by random sampling, to select both the schools and the students. Multi-stage cluster sampling is a sampling technique used when a sample is to be drawn from a widely dispersed population, such as a national population, or a large region, or even a large city (Bryman and Cramer, 2008). This study covered a highly dispersed population of students in selected schools, which were also widely spread within the specified districts and regions specified; and the regions were also a long way apart from each other, so a multi-stage cluster sampling technique was appropriate. This sampling technique used here had two stages.

The first stage of cluster sampling involved the researcher sampling the districts. The districts were classified into two clusters representing the regions of Dar es Salaam and Mtwara (i.e. the cluster of districts in the Dar es Salaam region, and the cluster of districts in Mtwara region). Thereafter, two districts from each cluster were selected at random. The number of districts drawn at this stage (about 40% of the sampling population) was sufficiently large to allow simultaneous estimation of the effect of district-level variables with stability.

The researcher then undertook second stage cluster sampling to obtain the schools. Schools in the districts already selected were divided into four clusters (i.e. one cluster for schools in Mtwara district, another for schools in Tandahimba district, a third for schools in Ilala district and a fourth for schools in Temeke district). In this second stage, four schools were selected randomly from each cluster of districts, giving a total of sixteen secondary schools. The number of schools was determined by the purpose of the study, and to ensure equal representation of all the schools in the sample region. The number of schools drawn at this stage was also sufficiently large to allow simultaneous estimation of the effect of the schools and the students as variables in the study. The following table (Table 1) shows the distribution of sample units by region and district.

After the two cluster sampling stages, students were randomly sampled from forms two to four in each selected school, to obtain approximately 60 students from each school, giving a sample of 1041 students. The students were the primary unit of analysis for this study, as they would be asked to complete questionnaires on their attitudes and perceptions, giving a picture of their engagement with schooling.

Table 1: Selected regions, districts, schools and students

Selected regions	Selected districts	Selected schools	Selected students
Mtwara	Mtwara	Msimbati	50
		Mustapha Sabodo	52
		Nanguruwe	51
		Ziwani	53
	Tandahimba	Kitama	61
		Namikupa	68
		Nandonde	60
		Tandahimba	62
Dar es Salaam	Ilala	Benjamin William Mkapa	74
		Dar es Salaam	88
		Ilala	61
		Majani ya chai	62
	Temeke	Kibasila	69
		Mbagala	64
		Mbande	89
		Temeke	77

Source: *Field data, 2017*

4.8 Instruments

The study entailed analysis of student responses in relation to their experience of school, in order to assess their engagement with schooling. The data collection instrument for this research was a questionnaire, which was designed giving close attention to alignment, research questions, associated hypotheses, and the theoretical context of the study.

Questionnaire

The questionnaire used in the study was designed for students and translated into Swahili (see Appendix A) before being administered to them. The first part of the questionnaire dealt with school and student demographics in order to elucidate information about student characteristics (age, gender, and class level).

This part requested three pieces of information: the student's age in years, their gender, and their current class level. The second part of the questionnaire consisted of psychometric scale questions designed to measure students' attitudes (the extent to which they had internalized the schooling-related issues presented) and perceptions (how far they agreed or disagreed with statements about the schooling-related issues presented). The psychometric scale questions were partly drawn from the Interest in Learning and Attitude to School Scale (ILASS), whose part A consists of 30 items with 0.79 Cronbach coefficient Alpha reliability and 0.89 internal consistency/evidence of construct validity; and whose part B includes 27 items with 0.82 reliability and 0.87 construct validity via an internal consistency source (Kpolovie et al., 2014). Other questions were drawn from the PISA 2000 and PISA 2003 studies (NCES, 2015), while further questions were derived from School Context Scales developed by Akey (2006) for the study of school environments, student attitudes and behaviour, and academic achievement. These questions were used because they had been found to have the greatest influence on students' experience of schooling in classroom activities and in school. The questions also explored in depth students' attitudes towards and perceptions of their schools, their studies, their examinations and their academic achievements (Akey, 2006; DeVito, 2016; Kpolovie et al., 2014). Questions were divided into three sections to make them easier for participants to understand and encourage thorough responses. The first section comprised a series of questions asking students about their schools, focussing on (1) how they felt about their schools and (2) how far they thought school supported their studies. The second section asked students about their school contextual variables, focussing on (1) how school infrastructure influenced their studies; (2) how classroom conditions influenced their studies; (3) how the school's teaching and learning materials (resources) influenced their studies; and (4) how after school activities influenced their studies. The third section asked students about their structure of their learning at school, focussing on (1) how they viewed the subjects they were taught at school; (2) how they related their studies to their academic performance; (3) how their personal study and study with fellow students influenced their learning in the classroom; and (4) how much support they got from their teachers. Each of the questions in every section was designed to be answered on a 5-point Likerty-type scale using measures of "very much", "quite a lot", "moderate", "not much" and "not at all". This required respondents to rate each item by ticking boxes next to one of these measures following each question. The following table (Table 2) shows the classifications of the sections in the questionnaire and the types of questions asked.

Table 2: Classification of the Questionnaire

PART	SECTION	TYPE OF QUESTIONS ASKED
Part 1	Student demography	Student gender
		Student age
		Student class level
Part 2	Psychomotor scale	
	About the school	How do you feel about your school?
		How much do you think the school supports your studies?
	About school contextual environment at the school	How does your school infrastructure influence your studies?
		How do your classroom conditions influence your studies?
	About the structure of learning at school	How do you view the subjects you are taught at school?
		What is the relationship between your studies and your academic performance?
		How much support do you get from teachers with your studies?

Source: *Field data, 2017*

Table 3: Items explored under psychomotor scale part

KIND OF QUESTIONS ASKED	ITEMS
How much do you feel about your school?	<ul style="list-style-type: none"> - I like this school - This school makes me happy - This school makes me enjoy learning - I feel lucky to be a student at this school - I enjoy school activities - I wish I were a student of another school - I would rather stay at home than attend this school - I find other places to go instead of coming to this school - I don't like being at school for long time - Being at school is a waste of time
How much do you think the school supports your studies?	<ul style="list-style-type: none"> - I have learnt many things at school - I can learn new things quickly at school - School has encouraged me to think for myself - School encourages me to be creative - The school's tight rules have encouraged me to study - School has helped me to get good grades in my subjects - Many academic activities at this school have boosted my desire to learn - School has too many activities that are not related to my studies - I never learn anything at school - Studying at this school is very complex
How does your school infrastructure influence your studies?	<ul style="list-style-type: none"> - The school laboratories have lots of materials (i.e. equipments and chemicals) that increase my desire to learn - The school library has lots of materials (i.e. books, newsletters and texts) that make it easy for me to study - My school library motivates me to learn - I enjoy being in my school laboratories - The medical facilities mean I do not worry if I am sick - My school is well fenced and secure, which means I am less worried while I am studying - The school has ready water supplies, which means my studies can proceed smoothly - I can even study during the evening because a reliable power supply is available - The inadequacy of study materials in my school library discourages me from learning - If there were a good library I would read lots of books
How do your classroom conditions influence your studies?	<ul style="list-style-type: none"> - I enjoy being in the classroom where my lessons are conducted - The classroom is too small - The infrastucture in my classroom (i.e. floor, windows, doors) is not in good order and does not help me study

	<ul style="list-style-type: none"> - My classroom does not have adequate equipment (i.e. desks, chairs, book cabinet) to facilitate my understanding - Studying in my classroom is not enjoyable because most of the equipment is broken - Our classroom blackboard is worn out and stops me concentrating on my teachers - Our classroom notice board is in good order and facilitates communication with our teachers
How do you view the subjects you are taught at school?	<ul style="list-style-type: none"> - I like most of the subjects I am taught at school - I like very few lessons among all the different subjects we study - I cannot participate well in many subjects - Most of my subjects are too tough for me - Most subjects are not taught well by the teachers - I cannot get help when studying - I find easy to study most of my subjects - I hate most subjects
What is the relationship between your studies and your academic performance?	<ul style="list-style-type: none"> - My good academic achievement makes me study hard - Exams are a true measure of my academic success - I can understand the school examination questions - I can understand the national examination questions - I am well prepared for the national examinations - I am proud of my academic achievement
How much support do you get from teachers support with your studies?	<ul style="list-style-type: none"> - Teachers involve us well in study activities - My efforts in class are overlooked by my teachers - My teachers demand too much work from me - If my teachers demanded more, I would probably work harder - Teachers help me when I have problems with my studies - Teachers are fair to everyone - It is easy for me to talk to my teachers about my study problems - My teachers work hard to help me do well in exams

Source: *Field data, 2017*

4.9 Permission to carry out the study

As with all research undertaken in Tanzania, permission and authorization were sought to collect data in the regions, districts and schools. Permission to carry out the study was granted by the Stella Maris Mtwara University College, and permission to collect data in the field was obtained from (a) Regional Administrative Officers (Dar es Salaam and Mtwara Region), (b) District Administrative Officers (Temeke, Ilala, Mtwara and Tandahimba) (c) School Heads (Mbande, Mbagala, Majani ya Chai, Temeke, Ilala, Benjamini Mkapa, Dar es Salaam, Kibasila, Ziwani, Msimbati, Nanguruwe, Mustapha Sabodo, Nandonde, Kitama, Namikupa, Tandahimba, Ndanda and Mtwara Ufundi).

4.10 Pre-testing the Questionnaires

Pre-testing was conducted in Mtwara Ufundi and Ndanda secondary schools, both government secondary schools. The two schools were located in Mtwara Region since it was understood that pre-testing should be conducted on samples that were as close as possible a match for the target population (Kothari, 2004). Pre-testing provided the opportunity to determine the extent to which the questions in the questionnaire covered the intended ground and conveyed the intended meaning to respondents. The pre-test provided estimates of the reliability of the instrument that were independent of the main study. Pre-testing also determined the time it took to complete one questionnaire, and confirmed from responses whether the questions were clear, consistent and unambiguous and if they generated accurate answers. After pre-testing, questions were improved and the instrument was re-written (see appendix A)

4.11 Reliability and Validity

Validity and reliability are key to effective research (Cohen et al., 2007). This research therefore, ensured both validity and reliability as explained below:

4.11.1 Validity

Validity is defined by Sorde Marti and Mertens (2014) as the extent to which an instrument measures what it intends to measure. The validity of this instrument was studied at length. In this study, the accuracy and trustworthiness of the research instrument was ensured through sampling of typical cases likely to participate in the study. Content validity was ensured by ascertaining the degree of consensus in the generation of meaning for the different variables under investigation. The quality of wording was given priority as the questionnaire was developed. Questions and items used were structured in an unambiguous fashion, for ease of reading. They were also designed to be colloquial and as objective as possible, avoiding inappropriate vocabulary and jargon. Attention was also paid to the structure of questions, ensuring that they elicited the required information. The researcher also enlisted the help of critical readers, peers and supervisors who read through the questionnaire; their recommendations were incorporated into the final version. Finally, a pre-test of the instrument was conducted with a small group drawn from the research population and that closely mirrored the sample. In this case, pretesting was undertaken with students of Mtwara Ufundi secondary school in Mtwara Mikindani Municipality, and students of Ndanda secondary school in the Masasi district of Mtwara region. Analysis of pre-test data collected enabled the clarity of

questions to be assessed, which helped to identify modifications that would improve the questionnaire. Some unclear items were removed, others re-worded and corrected. Then the whole questionnaire was re-checked before the full process of collecting and analysing data was undertaken.

4.11.2 Reliability

The reliability of this research was assessed in terms of the consistency and repeatability of responses, and the stability of the measuring tool, and ensured through a consistent and objective instrument that produced similar data from different respondents and responses. The questionnaire was pre-tested in order to enhance the reliability of the study and to ensure objectivity in data collection. As set out in the above section, the questionnaire was first administered to students at Mtwara Ufundi secondary school, and then to students at Ndanda Secondary school. The data obtained from Mtwara Ufundi secondary school was then cross-checked with that from Ndanda secondary school.

4.12 Data Collection

Questionnaire data was collected during visits to schools. Data collection was undertaken in two phases. The first phase was collection of data from schools in Mtwara region between July 2016 and November 2016, and the second was collection of data from schools in Dar es Salaam region between January 2017 and May 2017. The questionnaires were expected to take participants approximately 30 minutes to complete.

Visits to each school were arranged in advance with the headmaster/headmistress in agreement with teachers. The students selected to fill out questionnaires were taken to the rooms with a capacity of at least 60 students. Prior to completing the questionnaire, students were reminded that questionnaires were confidential and given other important information to enable them to fill them out.

Data collected was prepared and fed into SPSS statistical software. Mtwara data was prepared, coded, and categorized and entered into SPSS in December 2016, and Dar es Salaam data in June and July 2017.

4.13 Ethical Considerations

The ethical aspects of the project involved obtaining respondents' informed consent, observing their right to privacy, protecting them from physical or emotional harm that might arise from the way questions were asked and findings reported (Punch, 1994). Burgess (1990) contends that access and acceptance are central to the relation between the respondents and the researcher, and highlights a number of ethical implications relating to openness, trust, commitment and confidentiality. The respondent-researcher relationship implies a respect for the rights of individuals whose privacy is not invaded and who are not harmed, deceived, betrayed or exploited by the research process. In this study therefore, the respondents were assured of confidentiality and that in the final analysis the quantitative data presented in study would not be capable of being linked to any individual respondent. Most of the psychometric items in the survey questionnaire could be considered as impinging on individuals' privacy; attempts were therefore made to explain the purpose and significance of the study to the respondents, and illustrate why the data and information obtained from the students was important for the fulfilment of the tasks of the study. Respondents were also informed that it might be possible to disseminate the findings and policy implications of the study to participants that had provided data and information.

4.14 Data Analysis Plan

This study entailed description of data and identification of differences, similarities and relationships between variables and their influences on selected sample characteristics and the population they were drawn from, using descriptive and inferential statistics. Before commencing analysis, the study considered how to manage data so as to ensure it was replicable and capable of answering the research questions and hypotheses formulated (Kothari, 2004). The plan identified the unit of analysis, in this case the students. The plan also specified the type of data to be collected: students' identity, age, gender and class level; names of schools, districts and regions; and students' responses in terms of the psychometric scale values of very much, much, moderate, less, and not at all. The data plan also identified the statistical tests to be used for data analysis, namely crosstables, T-tests and the ANOVA test.

4.14.1 Data Preparation

Social science research understands the concept of 'data' as referring to the information gathered by investigators with the aid of their instruments, techniques and other means (Cohen et al., 2007). The type and nature of the instrument and techniques used in collecting data has a significant influence on the level and type of data collected and this in turn influences the type of analysis to be undertaken, although a number of other criteria are considered to have a vital influence on the level and nature of data collected. These include research design, research questions, the unit of analysis, the number of variables, sample design and sample size. This study therefore looked carefully at the questionnaire in order to ensure the data collected were optimally suited for analysis using the SPSS software package. This then justified the use of the SPSS software package in the study. SPSS enabled the data to be prepared for further analysis. In the first instance, data preparation entailed checking the questionnaires to ensure all data were suitable for input into SPSS. The questionnaire check removed any partially completed and unfilled questionnaires. With the help of SPSS, data cleaning was then undertaken in order to check the consistency of data and to enable treatment of missing values. A consistency check identified data that were not consistent with other values and detected outliers. Some of these were discarded and some were replaced with the mean value. In the case of missing values, a neutral value of 99 was included. The questionnaire check and data cleaning removed 10 out of 1041 questionnaires, and ensured 1031 were suitable for analysis. SPSS enabled the coding of some values to be reversed for the purpose of validity and reliability checks. It was also used for scale transformation to ensure comparability with other scales and suitability for other kinds of analysis. Recoding of some variables made this a relatively straightforward process: variable age was recoded as age group, variable class level was recoded as class level group. These new variables could be measured on a continuous scale and were useful for T-test and univariate ANOVA analysis. Once data preparation was complete, descriptive and inferential statistics were produced.

4.14.2 Descriptive Statistics

Participants' demographic characteristics, namely students' gender, age (years), and class (grade) level, were described using the preliminary data collected in the questionnaire. Descriptive statistics also revealed other information such as the research identity of each participant. The name of each student's school, district name and region were also recorded.

Exploration of frequencies, percentages and cross-tabulations were undertaken in order to enhance the description of the data, make it clear and to enhance more picture to the data, and make the data presents what they suggest.

4.14.3 Inferential Statistics

Inferential statistics were computed in order to determine relation between students' attitudes and perceptions and their gender, age, school, district and region. The sum score and mean for each scale was analysed by means of univariate ANOVA to determine the significance of differences. Independent T-tests were also carried out to identify differences between districts and regions.

CHAPTER FIVE

5. FINDINGS

This chapter reports and summarizes the research instrument, along with the preliminary and major analysis used to formulate answers to the research questions and hypotheses established in previous chapters. It follows on from data cleaning, presenting the instrument and preliminary analysis and then the descriptive statistics relating to the first research question on the extent of student engagement with schooling across all the students under study. Next, the results of hypotheses testing for the second research questions are reported, with explanations of differences in students' gender, age level and class level in relation to student engagement. There then follows descriptive analysis of the third and fourth research questions, identifying the engagement dimension levels of all students and for different school categories. The chapter concludes with inferential analysis of research question five, which presents the differences in student engagement with schooling in the districts and regions studied.

5.1 Instrument analysis

5.1.1 Construct validity

The psychometric scale used in the questionnaire was analysed using Principal Component analysis (factor analysis) to ensure that survey data measured the construct they were intended to measure. This analysis was necessary in order to determine the proper engagement of students with the schooling process. Thus construct validity was determined through a Principal Component Analysis. First, the 59 items (see table 3) for the entire psychometric scale which were constructed with thirteen components; after rotation with the Principal Component Analysis (PCA) the seven-component structure was confirmed. The PCA further suggested that the scale could be modified to comprise 7 components with 4 to 7 items per component after removal of items that were not consistent with the PCA rotation. The first component (factor) consisted of 6 items that accounted for 55.6% of the variance, with almost 25% attributed to it (under extraction Sums of Squared Loading). Table 4 shows the items and component loadings for the rotated components, with loadings of less than .50 omitted for the sake of clarity. Therefore, only 37 items remained. A subscale was then constructed for each of the 7 components to enable further analysis, with labels according to the constructs derived from each component. The subscales were therefore as follows: 1. Attitudes to school (component 3), 2. Perceptions of school support (component 2), 3. Perceptions of school library and laboratories (component 6), 4. Perceptions of classroom makeup (component 5), 5. Attitudes towards

subjects (component 7), 6. Perception of examinations and academic achievement (component 4), 7. Perceptions of teacher support (component 1). Data from 1031 complete responses to the 37 items indicated that they satisfied the underlying PCA assumptions.

Table 4: Component structure of the Rotated Component Matrix resulting from Principal Component Analysis

	Rotated Component Matrix						
	1	2	Components				6
			3	4	5		
I like this school			.760				
This school makes me happy			.746				
This school makes me enjoy learning			.705				
I feel lucky to be a student at this school			.728				
I wish I were a student of another school			-.733				
I learn many things at school		.650					
I can learn new things quickly in school		.746					
School has encouraged me to think for myself		.668					
School encourages me to be creative		.690					
The school's tight rules encourage me to study		.536					
School has helped me to get good grades		.518					
Many activities at this school have boosted my desire to learn		.532					
The school laboratories have lots of materials (i.e. equipment and chemicals) that increase my desire to learn						.578	
The school library has lots of materials (i.e. books, newsletters and other texts) that make it easy for me to study							.810
My school library motivates me to learn						.775	
I enjoy being in my school laboratories						.699	
The infrastructure in my classrooms (i.e. floor, windows, doors) is not in good order to help me study					.684		
My classroom does not have adequate equipment (i.e. desks, chairs, book cabinets) to facilitate my understanding					.772		
Studying in my classroom is not enjoyable because most of the equipment is broken					.806		
Our classroom blackboard is worn out and destructs concentrating on my teachers					.585		
Our classroom noticeboard is not in good order and does not facilitates communication with our teachers					.533		
I cannot participate well in many subjects							.647
Most subjects are too tough for me							.709
I hate most subjects							.755
I like very few lessons among all the different subjects							.759
My good academic achievement makes me study hard				.570			
Exams are a true measure of my academic success				.605			
I can understand the school examination questions				.593			
I can understand the national examination questions				.637			
I am well prepared for the national examinations				.622			
I am proud of my academic achievement				.558			
Teachers involve us well in study activities	.640						
My efforts in class are being overlooked by my teachers	-.634						
Teachers help me when I have problems with my studies	.699						
Teachers are fair to every student	.672						
I can easily talk to my teachers about my study problems	.747						
My teachers work hard to help me do well in my exams	.720						

Extraction Method: Principal Component Analysis
 Rotation Method: Varimax with Kaiser Normalization.
 a. Rotation converged in 7 iterations.

5.1.2 Inter-item reliability

To assess whether the data formed seven reliable subscales, the inter-item reliability of each component was determined using Cronbach's alpha. The alpha coefficients obtained were all above .72, signifying that there was strong inter-item reliability within each of the 7 components.

Table 5: Subscales Inter-item Reliability

SUBSCALE	ALPHA
Attitudes to school	.875
Perceptions of school support	.823
Perceptions of school library and laboratories	.769
Perceptions of classroom makeup	.739
Attitudes towards subjects	.789
Perceptions of examinations and academic achievement	.726
Perceptions of teachers support	.849

Source: *Data analysis, 2019*

5.1.3 Correlation between subscales

The Pearson product-moment correlation coefficient test was used to identify associations between the subscales used in the study. The test found that there was a moderately high degree of association between the 'attitudes to school' and 'perceptions of school support' subscales, with a correlation coefficient (Pearson's correlation) of 0.525 being statistically significant at 0.01 ($\alpha=0.01$). Other correlations worth reporting at this level were found between the following pairs of subscales: 'perceptions of school library and laboratories' and 'attitudes to school' ($p = 0.36$), 'perceptions of examinations and academic achievement' and 'attitudes to school' ($p = 0.36$), 'perceptions of examinations and academic achievement' and 'perceptions of school support' ($p = 0.45$), 'perceptions of teacher support' and 'attitudes to school' ($p = 0.40$), 'perceptions of teacher support' and 'perceptions of school support' ($p = 0.44$), and 'perceptions of teacher support' and 'perceptions of school library and laboratories' ($p = 0.39$). The correlation matrix below illustrates this:

Table 6: Correlation Matrix between the sums of the scores of five subscales

	1	2	3	4	5
1. School	—				
2. School Support	.52**	—			
3. Library and laboratories	.36**	.34**	—		
4. Exams	.36**	.45**	.27**	—	
5. Teachers	.40**	.44**	.39**	.45**	—

Note. $N=1031$. * $p<.05$; ** $p<.01$

5.2 Preliminary Data Analysis

The data analyzed came from 1031 out of the 1041 students who responded to the questionnaires. Data from 10 students (0.96% of responses) was subjected to questionnaire checking and data cleaning during data preparation.

Demographic characteristics

Table 7: Frequency table showing demographic characteristics of participants

Characteristic	Category	Frequency	Percentage
Gender	Female	535	51.9%
	Male	496	48.1%
Age (years)	15 and below	109	10.6%
	16	297	28.8%
	17	411	39.9%
	18 and above	214	20.8%
Class level	Form two	69	6.7%
	Form three	442	42.9%
	Form four	519	50.3%

Source: *Data analysis, 2019*

The number of students who responded to demographic data included in questionnaire was 1030; one student chose not to provide information about their class level. The following analysis is based on the responses of all 1031 student participants. Table 7 shows the frequency (counts and percentages) of the reported demographic characteristics. The majority of the participants (n=535, 51.9%) were female. They ranged in age from 14 to 22 years old; however, n=9 (0.9%) were more than 19 years old, and only n=14 (1.4%) were 14 years old. Most of the participants were in forms three and four (n=961, 93.2%) while only n=69 (6.7%) were in form two.

Over half the participants came from the Dar es Salaam region (n=576, 55.9%) and the rest (n=455, 44.1%) from Mtwara region; this was in order to ensure the study covered a representative sample of the interested population, since many students from Dar es Salaam region showed a great deal of interest in being included in the sample. Thus, the sample size for Dar es Salaam students exceeded the expected 480. This was advantageous to the research, as the increased sample size increased its representativeness of the population. Participants in Mtwara region did not meet the required number of 480, because it emerged that some schools had very few students, and thus convincing students to participate in the study was a challenge. However, the number of students who participated was within 10% of a realistic sample. The largest number of participants were from Temeke district (n=295, 28.6%) followed by Ilala district (n=281, 27.3%), then Tandahimba district (n=249, 24.2%) and lastly Mtwara (n=206, 20%). Table 8 presents the students' responses, cross-tabulated by district and region.

Table 8: Cross tabulation of the number of students in different districts and regions

		The four selected districts of Tanzania				Total
		Mtwara district	Tandahimba district	Temeke district	Ilala district	
The two selected regions of Tanzania	Mtwara (Count)	206	249			455
	% within the two selected regions	45.3%	54.7%			
	% within the four selected districts					44.1%
	Dar es Salaam (Count)			295	281	576
	% within the two selected regions			51.2%	48.8%	
	% within the four selected districts					55.9%
Total	Count	206	249	295	281	1031
	% within the two selected regions	20.0%	24.2%	28.6%	27.3%	
	% within the four selected districts					100%

Source: *Data analysis, 2019*

5.3 DQ1: Extent of student engagement with schooling

This descriptive question is the first specific question of this study. The question explores extent of student engagement with schooling among students at the selected schools in the study region. The question asks **“To what extent are students engaged with schooling at the selected schools?”**

To respond to this question, each variable of the 7 subscales was analyzed using frequencies and percentages. On the first subscale, ‘attitudes to school’, the majority of students demonstrated moderately high positive attitudes towards school, with most liking their schools (70.70%), schools making them happy (62.36%), and making them enjoy their learning (72.45%). In addition, they felt lucky to be at their schools (71.38%) and did not wish they attended other schools (58.38%). These findings show that most students had affection for their schools because they felt they belonged to them and were attached to them. Students also had high positive perceptions of the support they got from their schools, with the majority responding that they were learning many things at their schools (90.69%). The majority of students also thought that their schools encouraged them to think for themselves (85.94%), that they learned new things quickly at school (84.09%), that they were encouraged to be creative (72.84%), and that schools helped them achieve good grades (72.64%). Additionally, students thought that tight school rules encouraged them to study hard

(77.98%) and that many activities provided by their schools boosted their desire to learn (70.70%). They also had high positive perceptions of their examinations and academic achievement: 87.87% thought that their academic achievements made them study hard; 92.23% thought that their examinations were a true measure of their academic success; they were proud of their academic achievement (69.34%); and they thought they were well prepared for national examination (79.53%). Students also found that they were able to understand school and national examination questions, 77.70% and 68.95% respectively. The students also felt they received moderately adequate support from their teachers. Most students took the view that teachers involved them well in study activities (67.01%), helped them when they had problems with study (64.10%), and worked hard to help them to do well in their examinations (69.54%). Additionally, they felt they could easily talk to their teachers about any problems with study (53.44%) and that their efforts were not being overlooked by their teachers (61.12%). Fewer than half of the participants perceived their teachers as not being fair to every student (44.04%). These findings show that although teachers support students' learning differently, they are not fair to every student. The information above can be drawn from participants' response categories as shown in in Table 9.

Table 9: Frequency table showing response categories for the first, second, sixth and seventh subscales on extent of student engagement with schooling

Response categories

	Not at all/less		Moderate		Much/Very Much	
	f	%	f	%	f	%
Attitudes to school						
1. I like this school	52	5.04	226	21.92	729	70.70
2. This school makes me happy	103	9.99	261	25.31	643	62.36
3. This school makes me enjoy learning	70	6.78	185	17.94	747	72.45
4. I feel lucky to be a student at this school	107	10.37	162	15.71	736	71.38
5. I wish I were a student of another school	286	27.74	114	11.05	602	58.38
Perceptions of school support						
1. I learn many things at school	15	1.45	70	6.79	935	90.69
2. I can learn new things quickly in school	33	3.20	113	10.96	867	84.09
3. School has encouraged me to think for myself	46	4.46	74	7.18	886	85.94
4. School encourages me to be creative	99	9.60	146	14.16	751	72.84
5. The school's tight rules encourage me to study	82	7.95	119	11.54	804	77.98
6. School has helped me to get good grades	61	5.90	204	19.78	749	72.64
7. Many activities at this school have boosted my desire to learn	115	11.72	158	15.32	724	70.70
Perceptions of examinations and academic achievement						
1. My good academic achievement makes me study hard	23	2.22	83	8.05	906	87.87
2. Exams are a true measure of my academic success	20	1.93	40	3.87	951	92.23
3. I can understand school examination questions	43	4.16	156	15.13	801	77.70
4. I can understand national examination questions	80	7.8	209	20.27	711	68.95
5. I am proud of my academic achievement	92	8.92	194	18.81	715	69.34
Perceptions of teacher support						
1. Teachers involve us well in study activities	106	10.28	216	20.95	691	67.01
2. My efforts in class are being overlooked by my teachers	182	17.76	195	18.91	631	61.12
3. Teachers help me when I have problems with my studies	138	13.38	209	20.27	661	64.10
4. Teachers are fair to every student	308	29.87	240	23.27	454	44.03
5. I can easily talk to my teachers about my study problems	230	22.30	228	22.11	551	53.44
6. My teachers work hard to help me do well in my examinations	106	10.28	186	18.04	717	69.54

Source: *Data analysis, 2019*

The histograms below represent a summation of the variable scores for each of the subscales from which the data was drawn. The frequency curve shows that the histogram is negatively skewed which shows that majority of students have positive attitudes towards their schools, a positive perception of schools' support for their schooling, and positive perceptions of their examinations, academic performance and teachers.

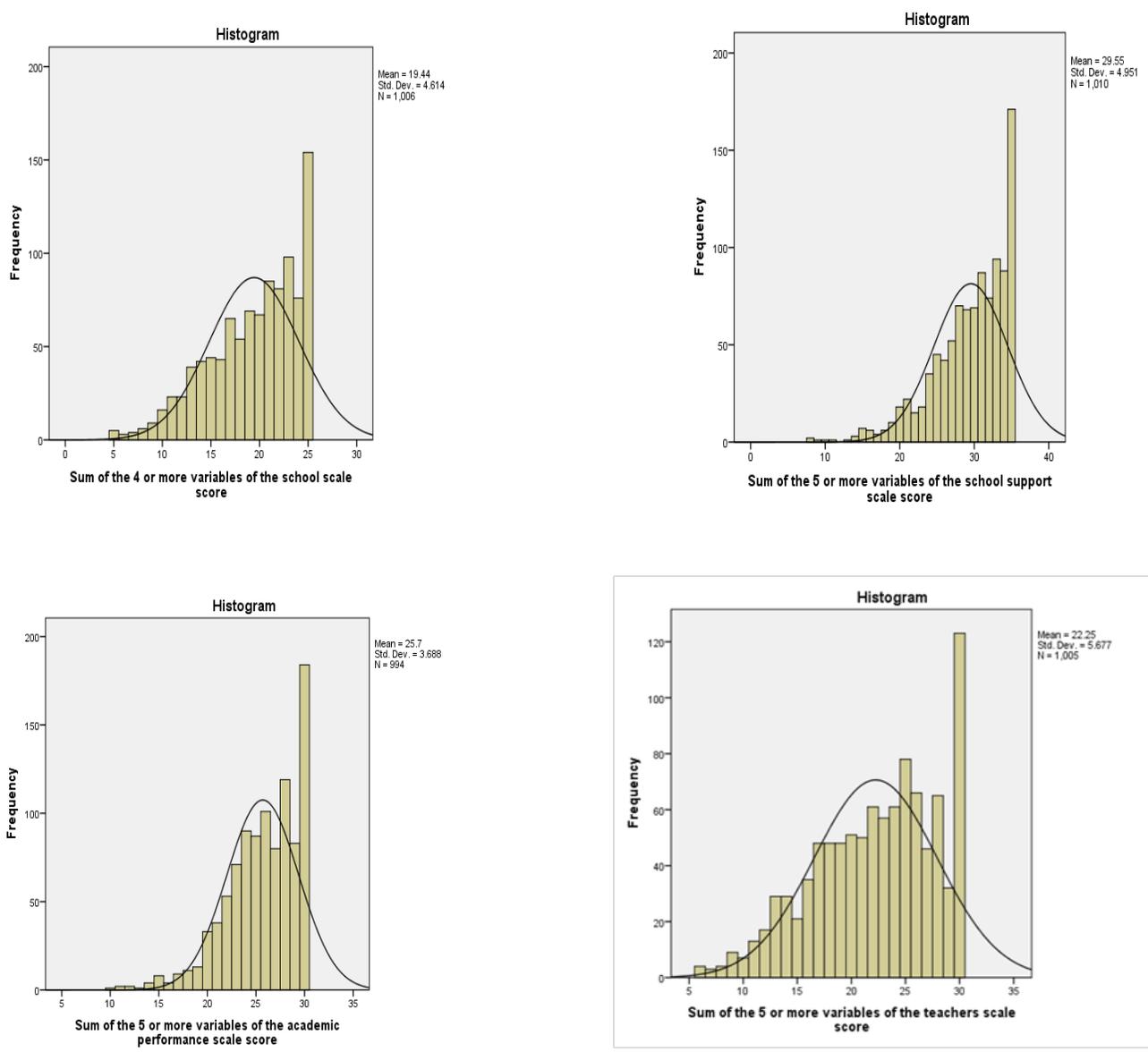


Figure 6: Histograms showing negative skewness for the first, second, sixth and seventh subscales on the extent of student engagement with schooling. Source: *Data analysis, 2019*

The fifth subscale, on the attitudes students had towards the subjects they study showed that students had moderate positive attitudes towards the subjects they were studying. Few students (20.16%) responded that they liked very few lessons in the various subjects they were studying. This means that 66.38% liked many lessons, because 11.05% said they moderately agreed with the statement on this issue. 59.07% also participate well in many subjects: only 15.02% responded that they cannot participate well in many subjects and 22.30% moderately agreed with the statement. Moreover, 61.68% of the students found that subjects were not too tough for them: only 12.41% said they were too tough and 21.43% agreed moderately with the statement. In addition, 84.76% liked most of the subjects they were studying: only 5.22% said that they hated most subjects and 5.04% agreed moderately with that statement. This shows that most students had positive attitudes towards the subjects they were studying. Table 10 provides a breakdown of participants' responses.

Table 10: Frequency table showing response categories for the fifth subscale on the extent of student engagement with schooling.

	Response Categories					
	Not at all/less		Moderate		Much/Very Much	
	f	%	f	%	f	%
Attitudes towards subjects						
1. I cannot participate well in many subjects	609	59.07	230	22.30	155	15.02
2. Most subjects are too tough for me	636	61.68	221	21.43	128	12.41
3. I hate most subjects	874	84.76	52	5.04	54	5.22
4. I like very few lessons among all the different subjects	684	66.38	114	11.05	208	20.16

The histogram below provides a summation of the scores for variables on the “attitudes towards subjects” subscale. The frequency curve reveals the positive skewness of the histogram. This indicates that very few students had negative attitudes towards the subjects they were studying.

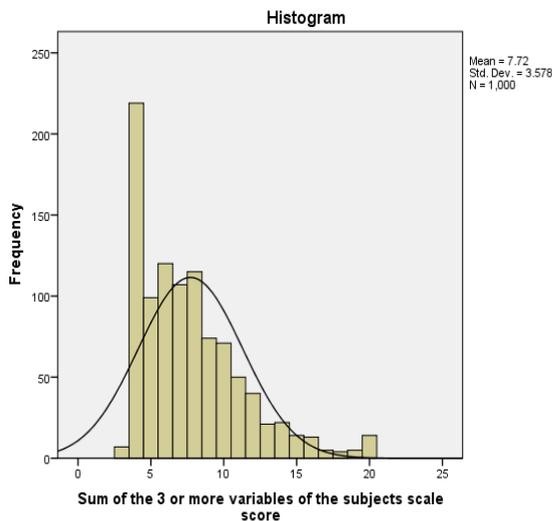


Figure 7: Histogram showing positive skewness of the fifth subscale on the extent of student engagement with schooling. Source: *Data analysis, 2019*

The third subscale, “perceptions of school library and laboratories” and the fourth subscale, “perceptions of classroom makeup”, show differing results from the subscales analyzed above. Most students had a moderately negative perception of the influence of the library and laboratories on their schooling. Few students (32.97%) agreed with the statement that school laboratories had lots of materials that increased their desire to learn, that school libraries had lots of materials that made it easy for them to study (32.67%), or that their school library motivated them to learn (40.54%). By contrast, half of the students (50.05%) said that they enjoyed being in their school laboratories. The fourth subscale, which elicited responses on students’ perception of the makeup of classrooms, showed similar results to those for third subscale. Few students (41.31%) responded that the infrastructure in their classrooms, such as floors, doors and windows, was in good order and helped them study comfortably because 19.30% moderately agreed with the statement and 36.85% didn’t. Likewise, only 40.24% responded that their classrooms did have adequate equipment such as desks, chairs and book cabinets to facilitate their understanding: only 18.42% responded moderately and 36.27% didn’t agree with the statement. Moreover, few students (38.31%) responded that their classroom noticeboard was in good order and facilitated communication with their teachers: only 46.07% said the classroom noticeboard was not in good order and 13.48% agreed moderately with the statement. The findings also reveal that 53.92% thought studying in their classroom was enjoyable although most of the equipment was broken: 27.92% didn’t agree and 16.00% responded moderately on the statement. In addition, 66.18% of the students agreed that the classroom blackboard was not worn out and didn’t prevent them from concentrating on their teachers: only 18.61% did agree and 12.80%

responded moderately on this issue. This finding indicates that students have a less positive perception of classroom configuration because of much equipment is missing or worn out. Table 11 below shows the frequency of responses in more detail.

Table 11: Frequency table showing responses for the third and fourth subscales on the extent of student engagement with schooling

Response Categories

	Not at all/less		Moderate		Much/Very Much	
	f	%	f	%	f	%
Perceptions of school library and laboratories						
5. The school laboratory has lots of materials (e.g. equipment and chemicals) that increase my desire to learn	377	36.55	295	24.73	304	32.97
6. The school library has lots of materials (e.g. books, newsletters, other texts) that make it easy for me to study	438	42.48	241	23.37	337	32.67
7. My school library motivates me to learn	404	39.18	192	18.62	418	40.54
8. I enjoy being in my school laboratory	275	26.60	216	20.95	516	50.04
Perceptions of classroom makeup						
1. The infrastructure in my classrooms (i.e. floor, windows, doors) is not in good order and does not help me to study	426	41.31	199	19.30	380	36.85
2. My classroom does not have adequate equipment (e.g. desks, chairs, book cabinets) to facilitate my understanding	415	40.24	190	18.42	375	36.27
3. Studying in my classroom is not enjoyable because because most of the facilities are broken	556	53.92	165	16.00	288	27.92
4. Our classroom blackboard is worn out and stops me concentrating on my teachers	683	66.18	132	12.80	192	18.61
5. Our classroom noticeboard make is not in good order and does not facilitate communication with our teachers	395	38.31	139	13.48	475	46.07

Source: *Data analysis, 2019*

The histograms below present a summation of the scores of variables for the “perceptions of school library and laboratories” and “perceptions of classroom makeup” subscales. The frequency curve in the histograms show that the distribution of perceptions on the influence of the library and laboratories is very close to normal, while in the second histogram, student perceptions of the makeup of the classroom is relatively positively skewed. However, close examination of the first histogram identifies a slight positive skewness, showing that relatively few students have positive perceptions of the influence of school libraries and laboratories, while many have negative perceptions of the influence of school libraries and laboratories on

their schooling. The skewness of the other histogram clearly shows that many students have negative perceptions of the makeup of their classrooms.

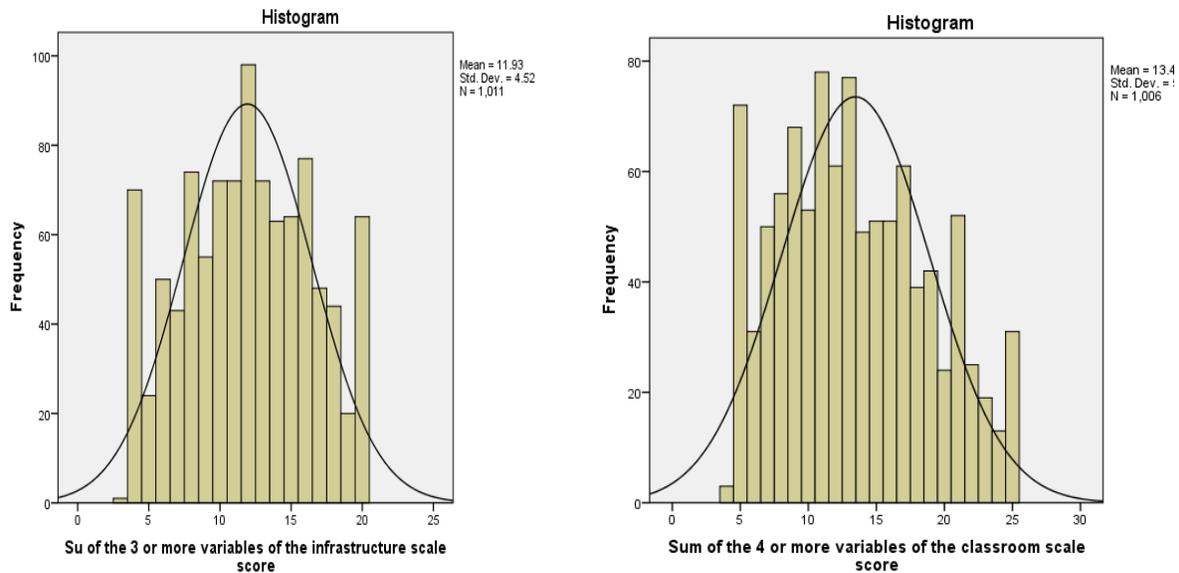


Figure 8: Histograms showing skewness in respect of the third and the fourth subscales on the extent of student engagement with schooling. Source: *data analysis, 2019*

5.4 IQ1: Differences between students’ characteristics in relation to their engagement with schooling

This inferential question is the the second specific question of this study and aims to explore if there are differences in student characteristics that impact on their engagement with schooling. The question asks, **“Are there differences between students’ characteristics in relation to their engagement with schooling?”**

The following hypotheses were derived from this question for the purposes of analysis:

H0₁: There is no significant difference between the means for male students and the means for female students in relation to engagement with schooling.

H0₂: There is no significant difference between the means for student age groups in relation to engagement with schooling.

H0₃: There is no significant difference between the means for student class levels in relation to student engagement with schooling.

In order to test the first null hypothesis, an independent sample t-test was carried out on the data. The findings are shown in table 12.

Table 12: Differences between the means for male students and the means for female students in relation to the attitudes to school, perceptions of school support and perceptions of teachers support subscales.

Subscales for measuring student engagement	Gender	N	Mean	SD	Levene's F	Levene's Sig	T-test T	T-test Df	T-test Sig
Attitudes to school	Males	527	18.88	4.958	17.376*	0.000	-4.039	1004	.000
	Females	479	20.05	4.123			-4.075	996.285	.000
Perceptions of school support	Males	529	29.07	5.340	14.187*	.000	-3.243	1008	.001
	Females	481	30.07	4.430			-3.271	999.742	.001
Perceptions of teachers support	Males	529	21.86	5.790	2.992**	.084	-2.303	1003	.021
	Females	476	22.68	5.523			-2.309	999.580	.021

* $P < 0.05$, ** $P < 0.1$

The table shows that there is a statistically significant difference between male and female students on three subscales of student engagement with schooling, because the significance level is below 0.05 ($p < 0.05$) for the means of the two genders. Hence the null hypothesis for the above three aspects of student engagement towards schooling is not supported. This is because the higher mean score (Mean = 20.05, SD = 4.123) for female students on the 'attitudes to school' subscale compared with male students (Mean = 18.88, SD = 4.958) is statistically significant ($t = -4.075$, $df = 996.285$, $p < .000$). This implies that female students have a more positive attitude towards their schools than their male counterparts. The mean score of female students (Mean = 30.07, SD = 4.430) on the 'perceptions on school support' subscale is also higher to a statistically significant degree ($t = -3.271$, $df = 999.742$, $p < .001$) than the mean score of male students (Mean = 29.07, SD = 5.340). This implies that female students have more positive perceptions than male students of the support they get from their schools. Female students' mean score (Mean = 22.68, SD = 5.523) on the 'perceptions of teacher support' subscale is also higher than that of male students (Mean = 21.86, SD = 5.790) to a statistically significant degree ($t = -2.309$, $df = 999.580$, $p < 0.21$), implying that female students have a more positive perception than male students of the support they get from their teachers.

When the independent sample t-test was used to test the remaining four subscales of student engagement with schooling, the following results were obtained as shown in Table 13 below.

Table 13: Differences between the means for male and female students on the perceptions of school library and laboratories, perceptions of classroom makeup, attitudes towards subjects and perceptions of examinations and academic achievements subscales.

Subscales for measuring student engagement	Gender	N	Mean	SD	Levene's F	Levene's Sig	T-test T	T-test Df	T-test Sig
Perceptions of school library and laboratories	Males	531	11.74	4.436	0.485	0.486	-1.347	1009	.178
	Females	480	12.13	4.609			-1.344	989.810	.179
Perceptions of classroom makeup	Males	528	13.47	5.373	1.651	.199	0.047	1004	.963
	Females	478	13.45	5.556			0.047	986.578	.963
Attitudes towards subjects	Males	524	7.83	3.662	.740	.390	1.058	998	.290
	Females	476	7.59	3.481			1.060	995.940	.289
Perceptions of examinations and academic achievements	Males	518	25.59	3.805	3.019	0.083	-0.941	992	.347
	Females	476	25.81	3.558			-0.944	991.698	.346

$P < 0.05$

From the analysis of the differences between genders on the remaining four subscales of student engagement with schooling, the study found there to be no statistically significant difference between male and female students, since the significance levels were above 0.05 ($p > 0.05$) for the means of both genders. Hence the null hypothesis for the above four subscales of student engagement with schooling is supported. This is because the mean score (Mean = 12.13, SD = 4.609) of female students on the 'perceptions of school library and laboratories' subscale does not differ statistically significantly ($t = -1.347$, $df = 1009$, $p = .179$) from the mean score of male students (Mean = 11.74, SD = 4.436). This implies that female and male students have similar perceptions of school libraries and laboratories. Similarly, the mean score (Mean = 13.45, SD = 5.556) of female students on the 'perceptions of classroom makeup' subscale does not differ statistically significantly ($t = 0.047$, $df = 1004$, $p = .963$) from the mean score of male students (Mean = 13.47, SD = 5.373). This implies that female and male students have similar perceptions of the makeup of classrooms. Moreover, the mean score (Mean = 7.59, SD = 3.481) of female students on the 'attitudes towards subjects'

subscale does not differ statistically significantly ($t = 1.058$, $df = 998$, $p = .290$) from the mean score of male students (Mean = 7.83, SD = 3.662). This too implies that female and male students have similar attitudes towards the subjects they study. Additionally, the mean score (Mean = 25.81, SD = 3.558) of female students on the ‘perceptions of examinations and academic achievements’ subscale does not differ statistically significantly ($t = -.941$, $df = 992$, $p = .347$) from the mean score of male students (Mean = 25.59, SD = 3.805). This also implies that female and male students have similar perceptions of examinations and academic achievements.

With regard to the first null hypothesis, the study partially supported the hypothesis because it found that there was significant difference between the means for male and female students on three subscales out of the seven subscales for student engagement with schooling. The results showed that female students are more highly engaged with schooling than male students because they have a positive attitude towards their schools and positive perceptions of the support they get from their schools and their teachers.

One-way analysis of variance was undertaken on the data to test the second null hypothesis. Table 14 shows the results of tukey tests.

Table 14: Tukey tests table showing statistical differences of the means for students’ age groups on all 7 subscales studied

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	Upper Bound
(I) Student age groups	(J) Student age groups				Lower Bound	
Attitudes to school						
15 years and below	16 years	.857	.524	.359	-.49	2.21
	17 years	1.406	.504	.028	.11	2.70
	18 years and above	1.916	.552	.003	.50	3.34
16 years	15 years and below	-.857	.524	.359	-2.21	.49
	17 years	.549	.353	.405	-.36	1.46
	18 years and above	1.059	.418	.056	-.02	2.13
17 years	15 years and below	-1.406	.504	.028	-2.70	-.11
	16 years	-.549	.353	.405	-1.46	.36
	18 years and above	.510	.393	.564	-.50	1.52
18 years and above	15 years and below	-1.916	.552	.003	-3.34	-.50
	16 years	-1.059	.418	.056	-2.13	.02
	17 years	-.510	.393	.564	-1.52	.50
Perceptions of school support						
15 years and below	16 years	-.229	.566	.978	-1.69	1.23

	17 years	.576	.545	.717	-.83	1.98
18 years and above		.874	.595	.457	-.66	2.40
16 years	15 years and below	.229	.566	.978	-1.23	1.69
	17 years	.805	.379	.147	-.17	1.78
	18 years and above	1.103	.447	.066	-.05	2.25
17 years	15 years and below	-.576	.545	.717	-1.98	.83
	16 years	-.805	.379	.147	-1.78	.17
	18 years and above	.298	.421	.894	-.79	1.38
18 years and above	15 years and below	-.874	.595	.457	-2.40	.66
	16 years	-1.103	.447	.066	-2.25	.05
	17 years	-.298	.421	.894	-1.38	.79
Perceptions of school library and laboratories						
15 years and below	16 years	1.754	.511	.003	.44	3.07
	17 years	2.106	.493	.000	.84	3.37
18 years and above		2.276	.537	.000	.89	3.66
16 years	15 years and below	-1.754	.511	.003	-3.07	-.44
	17 years	.352	.344	.735	-.53	1.24
	18 years and above	.522	.405	.570	-.52	1.56
17 years	15 years and below	-2.106	.493	.000	-3.37	-.84
	16 years	-.352	.344	.735	-1.24	.53
	18 years and above	.170	.382	.970	-.81	1.15
18 years and above	15 years and below	-2.276	.537	.000	-3.66	-.89
	16 years	-.522	.405	.570	-1.56	.52
	17 years	-.170	.382	.970	-1.15	.81
Perceptions of classroom makeup						
15 years and below	16 years	-1.134	.622	.263	-2.74	.47
	17 years	-1.231	.600	.170	-2.78	.31
18 years and above		-1.740	.655	.040	-3.43	-.05
16 years	15 years and below	1.134	.622	.263	-.47	2.74
	17 years	-.097	.419	.996	-1.18	.98
	18 years and above	-.606	.495	.611	-1.88	.67
17 years	15 years and below	1.231	.600	.170	-.31	2.78
	16 years	.097	.419	.996	-.98	1.18
	18 years and above	-.509	.467	.695	-1.71	.69
18 years and above	15 years and below	1.740	.655	.040	.05	3.43
	16 years	.606	.495	.611	-.67	1.88
	17 years	.509	.467	.695	-.69	1.71
Attitudes towards subjects						
15 years and below	16 years	-.210	.407	.955	-1.26	.84
	17 years	-.901	.393	.100	-1.91	.11
18 years and above		-.695	.429	.368	-1.80	.41
16 years	15 years and below	.210	.407	.955	-.84	1.26
	17 years	-.691	.275	.059	-1.40	.02
	18 years and above	-.485	.325	.444	-1.32	.35
17 years	15 years and below	.901	.393	.100	-.11	1.91
	16 years	.691	.275	.059	-.02	1.40
	18 years and above	.206	.307	.907	-.58	1.00
18 years and above	15 years and below	.695	.429	.368	-.41	1.80
	16 years	.485	.325	.444	-.35	1.32
	17 years	-.206	.307	.907	-1.00	.58
Perceptions of examinations and academic achievements						
15 years and below	16 years	-.029	.425	1.000	-1.12	1.06
	17 years	.366	.410	.809	-.69	1.42
18 years and above		.243	.447	.948	-.91	1.39
16 years	15 years and below	.029	.425	1.000	-1.06	1.12

	17 years	.394	.285	.512	-.34	1.13
	18 years and above	.272	.337	.851	-.59	1.14
17 years	15 years and below	-.366	.410	.809	-1.42	.69
	16 years	-.394	.285	.512	-1.13	.34
	18 years and above	-.122	.318	.981	-.94	.70
18 years and above	15 years and below	-.243	.447	.948	-1.39	.91
	16 years	-.272	.337	.851	-1.14	.59
	17 years	.122	.318	.981	-.70	.94
Perceptions of teacher support						
15 years and below	16 years	-.136	.650	.997	-1.81	1.54
	17 years	-.090	.625	.999	-1.70	1.52
18 years and above		-.401	.683	.936	-2.16	1.36
16 years	15 years and below	.136	.650	.997	-1.54	1.81
	17 years	.046	.438	1.000	-1.08	1.17
	18 years and above	-.266	.517	.956	-1.60	1.07
17 years	15 years and below	.090	.625	.999	-1.52	1.70
	16 years	-.046	.438	1.000	-1.17	1.08
	18 years and above	-.311	.486	.919	-1.56	.94
18 years and above	15 years and below	.401	.683	.936	-1.36	2.16
	16 years	.266	.517	.956	-1.07	1.60
	17 years	.311	.486	.919	-.94	1.56

$P < .05$

The results of the Tukey tests shown in table 14 show statistically significant variance between student age groups on the “attitudes to school” and “perceptions of school library and laboratories” subscales. Differences between age groups on the “attitudes to school” subscale are found to be statistically significant ($F = 4.858, p < .002$), as they are for the “perceptions on school library and laboratories” subscale ($F = 7.019, p < .000$). Table 15 presents extracts of findings from the Tukey tests for the two subscales.

Homogenous grouping of the extracted Tukey test results for the “attitude to school” subscale did not identify statistically significant differences in the means for the 18 years and above, 17 years and 16 years age groups (18.74, 19.25 and 19.80 respectively), nor between the means for the 16 years and 15 years and below age groups (19.80 and 20.65 respectively). The homogenous subsets calculated by the Tukey test reveal two subsets as regards the “attitude to school” subscale: (a) 18 years and above, 17 years and 16 years; (b) 16 years, and 15 years and below. These two subsets show statistically significant differences from each other in respect of this subscale.

Table 15: Extracted findings from tukey tests (table 14) for “attitudes to school” and “perceptions of school library and laboratories” subscales

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	
					Lower Bound	Upper Bound
Attitudes to school						
(I) Students age groups	(J) Students age groups					
15 years and below	17 years	1.406	.504	.028	.11	2.70
	18 years and above	1.916	.552	.003	.50	3.34
17 years	15 years and below	-1.406	.504	.028	-2.70	-.11
18 years and above	15 years and below	-1.916	.552	.003	-3.3	-3.34
Perceptions of school library and laboratories						
(I) Student age groups	(J) Students age groups					
15 years and below	16 years	1.754	.511	.003	.44	3.07
	17 years	2.106	.493	.000	.84	3.37
	18 years and above	2.276	.537	.000	.89	3.66
16 years	15 years and below	-1.754	.511	.003	-3.07	-.44
17 years	15 years and below	-2.106	.493	.000	-3.37	-.84
18 years and above	15 years and below	-2.276	.537	.000	-3.66	-.89

$P < .05$

Homogenous grouping of the Tukey test results for “perception of school library and laboratories” did not reveal statistically significant differences in the means for the 18 years and above, 17 years and 16 years age groups (11.46, 11.63 and 11.99 respectively), but did identify a statistically significant difference between these groups and the mean for the 15 years and below age group (13.74). The homogenous subsets calculated by the Tukey test reveal two subsets as regards the “perception on school library and laboratories” subscale: (a) 18 years and above, 17 years and 16 years; (b) 15 years and below. These two subsets show statistically significantly difference from each other in respect of this subscale.

The following table shows the Tukey test homogeneous groupings; findings are set out below the table.

Table 16: Homogenous grouping of the findings of Tukey tests set out at table 15 for the “attitudes to school” and “perceptions of school library and laboratories” subscales

Student age groups	N	Subsets for alpha = 0.05	
		1	2
Attitudes to school			
18 years and above	206	18.74	
17 years	404	19.25	
16 years	290	19.80	19.80
15 years and below	104		20.65
Sig.		.102	.250
Perception of school library and laboratories			
18 years and above	209	11.46	
17 years	402	11.63	
16 years	294	11.99	
15 years and below	104		13.74
Sig.		.653	1.000

Source: *Data analysis, 2019*

Grouping together ages with similar means enables the identification of differences in attitudes and perceptions between different age groups. Age groups that are close to each other have similar means. Students aged 16, 17, and 18 and above have similar attitudes and perceptions; likewise, students aged 16 and 15 and below have similar attitudes and perceptions. However, students aged 15 and below and students aged 17, 18 and above do not have similar attitudes and perceptions, and the students aged 15 and below show the greatest difference from the other age groups in terms of their attitudes and perceptions. The differences and similarities between the means for different age groups are shown at table 16, which has been extracted from the homogenous groupings in the Tukey tests table.

The findings on differences between age group means ages partially support the second null hypothesis because significant difference between the means for students’ age groups as regards engagement with schooling were only found on two out of seven subscales, namely attitudes to school and perceptions of school library and laboratories. All age groups had similar perceptions of support from schools and teachers, classroom makeup, and examinations and academic achievement. They also had similar attitudes to the subjects they were studying.

To test the third null hypothesis (H_{03}), the data were analysed using one-way analysis of variance and the following results were obtained.

Table 17: Tukey tests table showing statistical differences between means for students' class levels on all the 7 subscales studied

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	
					Lower Boundary	Upper Boundary
(I) Student class levels	(J) Student class levels					
Attitudes to school						
Form two	Form three	2.764	.612	.000	1.33	4.20
Form four		2.844	.606	.000	1.42	4.27
Form three	Form two	-2.764	.612	.000	-4.20	-1.33
Form four		.081	.299	.961	-.62	.78
Form four	Form two	-2.844	.606	.000	-4.27	-1.42
Form three		-.081	.299	.961	-.78	.62
Perceptions of school support						
Form two	Form three	.198	.667	.953	-1.37	1.76
Form four		.730	.661	.512	-.82	2.28
Form three	Form two	-.198	.667	.953	-1.76	1.37
Form four		.532	.323	.226	-.23	1.29
Form four	Form two	-.730	.661	.512	-2.28	.82
Form three		-.532	.323	.226	-1.29	.23
Perceptions of school library and laboratories						
Form two	Form three	2.927	.586	.000	1.55	4.30
Form four		4.052	.581	.000	2.69	5.42
Form three	Form two	-2.927	.586	.000	-4.30	-1.55
Form four		1.125	.288	.000	.45	1.80
Form four	Form two	-4.052	.581	.000	-5.42	-2.69
Form three		-1.125	.288	.000	-1.80	-.45
Perceptions of classroom makeup						
Form two	Form three	-3.413	.724	.000	-5.11	-1.71
Form four		-2.783	.717	.000	-4.47	-1.10
Form three	Form two	3.413	.724	.000	1.71	5.11
Form four		.629	.354	.177	-.20	1.46
Form four	Form two	2.783	.717	.000	1.10	4.47
Form three		-.629	.354	.177	-1.46	.20
Attitudes towards subjects						
Form two	Form three	-.621	.479	.398	-1.75	.50
Form four		-.862	.474	.165	-1.98	.25
Form three	Form two	.621	.479	.398	-.50	1.75
Form four		-.241	.235	.560	-.79	.31
Form four	Form two	.862	.474	.165	-.25	1.98
Form three		.241	.235	.560	-.31	.79
Perceptions of examinations and academic achievement						
Form two	Form three	-.257	.501	.866	-1.43	.92
Form four		.176	.496	.933	-.99	1.34
Form three	Form two	.257	.501	.866	-.92	1.43
Form four		.433	.243	.175	-.14	1.00
Form four	Form two	-.176	.496	.933	-1.34	.99
Form three		-.433	.243	.175	-1.00	.14
Perceptions of teacher support						
Form two	Form three	.182	.756	.969	-1.59	1.96

Form four		-.087	.749	.993	-1.84	1.67
Form three	Form two	-.182	.756	.969	-1.96	1.59
Form four		-.268	.372	.752	-1.14	.61
Form four	Form two	.087	.749	.993	-1.67	1.84
Form three		.268	.372	.752	-.61	1.14

$P < 0.05$

The Tukey tests showed statistically significant difference between class levels on the “attitudes to school”, “perceptions of school library and laboratories” and “perceptions of classroom makeup” subscales. Differences between class levels on the “attitudes to school” subscale were found to be statistically different at ($F = 11.357, p < .000$); differences on the “perceptions of school library and laboratories” subscale were found to be statistically different at ($F = 27.187, p < .000$); and differences on the “perceptions of classroom makeup” were found to be statistically different at ($F = 11.266, p < .000$). Table 18 presents extracts from the Tukey test findings for the three subscales.

Table 18: Extracted findings from Tukey tests (table 17) for the “attitudes to school”, “perceptions of school library and laboratories” and “perceptions of classroom makeup” subscales

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	
					Lower Boundary	Upper Boundary
(I) Student class levels						
(J) Student class levels						
Attitudes to school						
Form two	Form three	2.764*	.612	.000	1.33	4.20
Form four		2.844*	.606	.000	1.42	4.27
Form three	Form two	-2.764*	.612	.000	-4.20	-1.33
Form four	Form two	-2.844*	.606	.000	-4.27	-1.42
Perceptions of school library and laboratories						
Form two	Form three	2.927*	.586	.000	1.55	4.30
Form four		4.052*	.581	.000	2.69	5.42
Form three	Form two	-2.927*	.586	.000	-4.30	-1.55
Form four		1.125*	.288	.000	.45	1.80
Form four	Form two	-4.052*	.581	.000	-5.42	-2.69
Form three		-1.125*	.288	.000	-1.80	-.45
Perceptions of classroom makeup						
Form two	Form three	-3.413*	.724	.000	-5.11	-1.71
Form four		-2.783*	.717	.000	-4.47	-1.10
Form three	Form two	3.413*	.724	.000	1.71	5.11
Form four	Form two	2.783*	.717	.000	1.10	4.47

$P < .05$

Homogenous grouping of the Tukey tests for the “attitudes to school” subscale further found that the differences in the means for forms three and four (19.30 and 19.22 respectively) were not statistically

significant, but that both differed from the mean for form two (22.06) to a statistically significant degree. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “attitudes to school” subscale: (a) form three and form four; (b) form two. These two subsets show differences that are statistically significant in respect of this subscale.

Homogenous grouping of the Tukey tests for the “perceptions of school library and laboratories” subscale also found that the difference between the means for forms three and four (12.30 and 11.18 respectively) were not statistically significant, but that both differed from the mean for form two (15.23) to a statistically significant degree. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “perceptions of school library and laboratories” subscale: (a) form three and form four; (b) form two. These two subsets show differences that are statistically significantly in respect of this subscale.

Homogenous grouping the Tukey tests for the “perceptions of classroom makeup” subscale further found that the difference between the means for forms three and four (13.99 and 13.36 respectively) were not statistically significant, but that both differed from the mean for form two (10.58) to a statistically significant degree. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “perceptions on classroom makeup” subscale: (a) form three and form four; (b) form two. The two subsets show differences that are statistically significantly in respect of this subscale.

The following table of Tukey test homogeneous groupings (Table 19) illustrates this analysis.

Table 19: Homogenous grouping of extracted Tukey test findings from table 18 for the “attitudes to school”, “perceptions of school library and laboratories” and “perceptions of classroom makeup” subscales

Student age groups	N	Subsets for alpha = 0.05	
		1	2
Attitudes to school			
Form four	509	19.22	
Form three	432	19.30	
Form two	64		22.06
Sig.		.987	1.000
Perceptions of school library and laboratories			
Form four	510	11.18	
Form three	435	12.30	
Form two	65		15.23
Sig.		.067	1.000
Perceptions of classroom makeup			
Form two	64	10.58	
Form four	509		13.36
Form three	432		13.99
Sig.		1.000	.570

Source: *Data analysis, 2019*

Grouping class levels with similar means enables identification of the differences between them as regards attitudes and perceptions. Students in forms three and four have similar attitudes to school, perceptions of school libraries and laboratories and perceptions of classroom makeup. On the other hand, students in form two have different attitudes and perceptions from students in forms three and four.

This finding partially supported the third null hypothesis, because it found that there was significant difference between the means for class levels with regard to three out of seven subscales of student engagement with schooling (attitude to school, perception of school library and laboratories and perception of classroom makeup) on the psychometric scale of the questionnaire. Nevertheless, students of all class levels showed similar perceptions in relation to support from schools and teachers, and examinations and academic achievement. They also demonstrated similar attitudes to the subjects they were studying.

5.5 DQ2: Student engagement dimension levels at the selected schools.

The second descriptive question is the the third specific question of the present study. This question aims to to explore levels of student engagement for all three student engagement dimensions under study. The

question asks, **“What are the emotional, behavioral and cognitive engagement levels of all secondary school students at the selected schools?”**

In order to answer this question, the means and standard deviations for each statement in every dimension were computed and compared. Table 20 below shows the means and standard deviations for each statement in every dimension.

Table 20: Table showing means and standard deviations of emotional, behavioural and cognitive engagement dimensions

Student engagement dimensions	Items	N	Median	Mean	SD	
Emotional dimension	I like this school	4	4.08	.954		
	This school makes me happy	4	3.80	1.017		
	This school makes me enjoy learning	4	4.08	.998		
	I feel lucky to be a student at this school	4	4.02	1.131		
	I wish I were a student of another school	4	3.62	1.582		
	School has encouraged me to think for myself	5	4.41	.918		
	School has encouraged me to be creative	4	4.09	1.157		
	The school's tight rules encourage me to study	5	4.22	1.080		
	I am proud of my academic achievement	3	4.06	1.146		
	My school library motivates me to learn	4	2.95	1.549		
	I enjoy being in my school's laboratory	1	3.36	1.433		
	I hate most subjects	1	1.41	.952		
	I like very few lessons among all the different subjects	4	2.13	1.450		
Behavioural engagement	School has helped me get good grades	4	4.11	1.040		
	Many activities at this school have boosted my desire to learn	4	3.99	1.167		
	I am well prepared for national examinations	5	4.29	.918		
	Teachers involve us well in study activities	4	3.93	1.133		
	My efforts in class are overlooked by my teachers	4	3.86	1.312		
	Teachers help me when I have problems with my studies	4	3.83	1.183		
	Teachers are fair to every student	3	3.23	1.489		
	I can easily talk to my teachers about my study problems	4	3.53	1.305		
	My teachers work hard to help me do well in my examinations	4	3.98	1.125		
	The school laboratory has lots of materials that increase my desire to learn	3	2.91	1.432		
	My classroom does not have sufficient equipment to facilitate my understanding	1	2.95	1.571		
	Our classroom blackboard is worn out and stops me concentrating on my teachers	3	2.07	1.423		
	Our classroom noticeboard make is not in good order and does not facilitate communication with our teachers	2	3.12	1.662		
	I cannot participate well in many subjects	3	2.16	1.279		
	Cognitive engagement	I learn many things at school	5	4.56	.725	
		I can learn new things quickly at school	5	4.39	.856	
		My good academic performance make me study hard	5	4.51	.789	
Examinations are a true measure of my academic success		5	4.64	.707		
I can understand school examination questions		5	4.24	.934		
I can understand national examination questions		4	4.04	1.061		
The school library has lots of materials that make it easy for me to study		3	2.78	1.470		
The infrastructure in my classroom is not in good order and does not encourage me to study hard		3	2.89	1.577		
Studying in my classroom is not enjoyable because most of the equipment is broken		2	2.50	1.560		
Most subjects are too tough for me	2	2.13	1.199			

Source: Data analysis, 2019

The mean scores for most items (7 items) from the emotional engagement dimension fall within (M=4.02, SD=1.131 to M=4.41, SD=.918), reflecting generally higher emotional engagement among all students in the selected schools, while 3 items (M=3.36, SD=1.433 to M=3.80, SD=1.017) reflect moderately high emotional engagement and the rest (2 items) (M=2.13, SD=1.450 to M=2.95, SD=1.549), 1 item (M=1.41, SD=.952) reflects low emotional engagement. On the other hand, the mean scores for a few items (2 items) from the behavioural engagement dimension fall within (M=4.11, SD=1.040, to M=4.29, SD=.918), reflecting higher behavioural engagement among all students in the selected schools, while 8 items (M=3.12, SD=1.662 to M=3.99, SD=1.167) reflect moderately high behavioural engagement and the rest (4 items) (M=2.07, SD=1.423 to M=2.95, SD=1.571) reflect low behavioural engagement. Where the cognitive engagement dimension is concerned, the mean scores for only 6 items (M=4.04, SD=1.061 to M=4.64, SD=.707) reflect high cognitive engagement, while the rest (4 items) (M=2.13, SD=1.199 to M=2.89, SD=1.577) reflect low cognitive engagement.

These findings show that students in this study were highly emotionally engaged as they have high scores (in 7 items) and moderately high scores (in 3 items) out of 13 items under this dimension. Students were also highly cognitively engaged (6 items) despite also showing low engagement in some of the items (4 items). On the other hand, however, students show moderately high behavioural engagement, engaging in many (8 items) at a moderate level, and showing low engagement in 4 items, with only 2 items showing high levels of engagement.

5.6 DQ3: Differences between schools in relation to engagement dimension levels

The third descriptive question is the the fourth specific question of the present study, and seeks to analyze student engagement levels in relation to the three engagement dimensions for the two categories of secondary schools under study. The question asks, “**What difference are there in levels of emotional, hebavioural and cognitive engagement between SSAL and NSS students?**” To answer this question, each statement from every dimension was cross tabulated for both categories of school.

Table 21: Cross-tabulation table showing differences in student engagement dimension levels for students in the two categories of school

		School category			
		Advanced level secondary schools		Normal sec schools	
Engagement level	Items	Mean	SD	Mean	SD
Emotional dimension	I like this school	4.10	.944	4.08	.958
	This school makes me happy	3.84	1.014	3.79	1.019
	This school makes me enjoy learning	4.09	.981	4.08	1.005
	I feel lucky to be a student at this school	4.14	1.097	3.98	1.141
	I wish I were a student of another school	3.76	1.511	3.57	1.605
	School has encouraged me to think for myself	4.33	.974	4.43	.896
	School has encouraged me to be creative	3.99	1.183	4.12	1.146
	The school's tight rules encourage me to study	4.06	1.146	4.27	1.050
	I am proud of my academic achievement	4.08	1.134	4.05	1.150
	My school library motivates me to learn	2.65	1.515	2.85	1.472
	I enjoy being in my school laboratory	3.45	1.355	3.33	1.460
	I hate most subjects	1.44	.993	1.40	.938
	I like very few lessons among all the different subjects	2.18	1.484	2.10	1.438
Behavioral engagement	School has helped me get good grades	4.03	1.043	4.14	1.038
	Many activities at this school have boosted my desire to learn	3.97	1.187	4.00	1.160
	I am well prepared for national examinations	4.29	.897	4.28	.927
	Teachers involve us well in study activities	3.72	1.193	4.01	1.101
	My efforts in class are overlooked by my teachers	3.84	1.257	3.87	1.332
	Teachers help me when I have problems with my studies	3.65	1.226	3.90	1.162
	Teachers are fair to every student	3.09	1.493	3.28	1.485
	I can easily talk to my teachers about my study problems	3.35	1.351	3.59	1.283
	My teachers work hard to help me do well in my examinations	3.91	1.143	4.01	1.119
	The school laboratory lots of materials that increase my desire to learn	3.37	1.304	2.75	1.442
	My classroom does not have sufficient equipment to facilitate my understanding	2.78	1.536	3.01	1.580
	Our classroom blackboard is worn out and stops me concentrating on my teachers	1.93	1.320	2.13	1.456
	Our classroom noticeboard is not in good order and does not facilitate communication with our teachers	2.93	1.658	3.19	1.659
I cannot participate well in many subjects	2.14	1.245	2.17	1.292	
Cognitive engagement	I learn many things at school	4.45	.796	4.60	.693
	I can learn new things quickly at school	4.23	.941	4.44	.828
	My good academic performance makes me study hard	4.49	.844	4.52	.768
	Examinations are a true measure of my academic success	4.67	.632	4.63	.732
	I can understand school examination questions	4.32	.885	4.21	.951
	I can understand national examination questions	4.19	.990	3.98	1.081

The school library has lots of materials that make it easy for me to study	2.59	1.450	2.85	1.472
The infrastructure in my classroom is not in good order and does not make me study hard	2.63	1.529	2.99	1.585
Studying in my classroom is not enjoyable because most of the equipment is broken	2.32	1.469	2.56	1.588
Most subjects are too tough for me	2.15	1.183	2.12	1.205

Source: Data analysis, 2019

From Table 21, the mean scores for most items (6 items) under the emotional engagement dimension for NSS fall within (M=4.05, SD =1.150 to M=4.43, SD=.896), reflecting generally higher emotional engagement amongst students in this category of school. 4 items (M=3.33, SD=1.460 to M=3.98, SD=1.141) reflect moderately high emotional engagement and the rest (2 items) (M=2.10, SD=1.438 to M=2.85, SD=1.472), 1 item (M=1.410, SD=.938) reflects low emotional engagement. On the other hand, the mean scores for few items (6 items) under the emotional engagement dimension for SSAL fall within (M=4.06, SD=1.146, to M=4.33, SD=.974), also reflecting generally higher emotional engagement amongst students in this category of school. Similarly, 4 items (M=3.45, SD=1.355 to M=3.99, SD=1.183) reflect moderately high emotional engagement and the rest (2 items) (M=2.18, SD=1.484 to M=2.65, SD=1.515) and 1 item (M=1.44, SD=.993) reflects low emotional engagement.

In addition to the emotional engagement dimension, the mean scores for 5 items under the behavioural engagement dimension for NSS fall within (M=4.00, SD=1.160, to M=4.28, SD=.927), reflecting higher behavioural engagement amongst students in this category of school. 6 items (M=3.10, SD=1.580 to M=3.90, SD=1.162) reflect moderately high behavioural engagement and the rest (3 items) (M=2.13, SD=1.450 to M=2.75, SD=1.442) reflect low behavioural engagement. For SSAL, the mean scores for only 2 items (M=4.03, SD=1.043, to M=4.29, SD=.897) under the behavioural engagement dimension reflect higher behavioural engagement amongst students in this category of school, while 8 items (M=3.09, SD=1.493, to M=3.97, SD=1.187) reflect moderately high behavioural engagement, and 3 items (M=2.14, SD=1.245 to M=2.93, SD=1.658) and 1 item (M=1.93, SD=1.320) reflect low behavioural engagement.

In relation to the cognitive engagement dimension, the mean scores for 5 items (M=4.21, SD=.951 to M=4.63, SD=.732) for NSS reflect higher cognitive engagement, while 1 item (M=3.98, SD=1.081) reflects moderately high cognitive engagement and 4 items (M=2.12, SD=1.205 to M=2.99, SD=1.585) reflect low cognitive engagement. For SSAL the mean scores for 6 items (M=4.19, SD=.990, to M=4.67, SD=.632) reflect higher cognitive engagement while the mean scores for 4 items (M=2.15, SD=1.185 to M=2.63, SD=1.529) reflect low cognitive engagement.

This analysis shows that there are differences between NSS and SSAL on the behavioral engagement dimension. NSS students were more highly engaged in 5 items and moderately highly engaged in 6 items than SSAL students, who were moderately engaged in 8 items but highly only in 2 items. Both types of school demonstrated low behavioral engagement in relation to a few items, 3 items for NSS and 4 items for SSAL. Both categories also showed similar emotional and cognitive engagement with schooling. In the emotional engagement dimension, NSS students showed high engagement in 6 items, moderately high engagement in 4 items and low engagement in 3 items; likewise, SSAL students showed higher engagement in 6 items, moderately high engagement in 4 items and low engagement in 3 items. When it came to the cognitive engagement dimension, NSS students also showed high engagement in 5 items, moderately high engagement in 1 item and low engagement in 4 items, while SSAL show high engagement in 6 items, moderately high engagement in none of the items and low engagement in 6 items.

5.7 IQ2: Differences on student engagement with schooling within the study area

The second inferential question is the fifth specific question of this study. The question aims to explore the differences between districts and regions in relation to student engagement with schooling. The question asks, “**Are there differences on student engagement with schooling within the study area?**” Two hypotheses were derived to enable this question to be considered.

H0₁: There is no significant difference between the four selected districts in relation to student engagement with schooling

H0₂: There is no significant difference between Mtwara region and Dar es Salaam region in relation to student engagement with schooling

One-way anova statistical analysis was applied to the data to test the first null hypothesis. The results are presented in the following table.

Table 22: Tukey tests table showing statistical differences between the means of the four districts on all 7 subscales under study

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	
					Lower Bound	Upper Bound
(I) Selected districts	(J) Selected districts					
Attitudes to school						
Mtwara distr	Tandahimba distr	-.046	.441	1.000	-1.18	1.09
Temeke distr		-.615	.422	.463	-1.70	.47
Ilala distr		-1.296	.425	.013	-2.39	-.20
Tandahimba distr	Mtwara distr	.046	.441	1.000	-1.09	1.18
Temeke distr		-.569	.402	.491	-1.60	.47
Ilala distr		-1.250	.406	.011	-2.29	-.21
Temeke distr	Mtwara distr	.615	.422	.463	-.47	1.70
Tandahimba distr		.569	.402	.491	-.47	1.60
Ilala distr		-.681	.385	.288	-1.67	.31
Ilala distr	Mtwara distr	1.296	.425	.013	.20	2.39
Tandahimba distr		1.250	.406	.011	.21	2.29
Temeke distr		.681	.385	.288	-.31	1.67
Perceptions of school support						
Mtwara distr	Tandahimba distr	.712	.473	.435	-.50	1.93
Temeke distr		1.597	.453	.002	.43	2.76
Ilala distr		.816	.457	.280	-.36	1.99
Tandahimba distr	Mtwara distr	-.712	.473	.435	-1.93	.50
Temeke distr		.886	.430	.167	-.22	1.99
Ilala distr		.105	.434	.995	-1.01	1.22
Temeke distr	Mtwara distr	-1.597	.453	.002	-2.76	-.43
Tandahimba distr		-.886	.430	.167	-1.99	.22
Ilala distr		-.781	.412	.231	-1.84	.28
Ilala distr	Mtwara distr	-.816	.457	.280	-1.99	.36
Tandahimba distr		-.105	.434	.995	-1.22	1.01
Temeke distr		.781	.412	.231	-.28	1.84
Perceptions of school library and laboratories						
Mtwara distr	Tandahimba distr	.102	.432	.995	-1.01	1.21
Temeke distr		-.466	.414	.675	-1.53	.60
Ilala distr		.629	.418	.435	-.45	1.70
Tandahimba distr	Mtwara distr	-.102	.432	.995	-1.21	1.01
Temeke distr		-.568	.393	.471	-1.58	.44
Ilala distr		.527	.397	.545	-.49	1.55
Temeke distr	Mtwara distr	.466	.414	.675	-.60	1.53
Tandahimba distr		.568	.393	.471	-.44	1.58
Ilala distr		1.095	.377	.020	.12	2.07
Ilala distr	Mtwara distr	-.629	.418	.435	-1.70	.45
Tandahimba distr		-.527	.397	.545	-1.55	.49
Temeke distr		-1.095	.377	.020	-2.07	-.12
Perceptions of classroom makeup						
Mtwara distr	Tandahimba distr	2.016	.520	.001	.68	3.35
Temeke distr		1.006	.497	.181	-.27	2.29
Ilala distr		2.502	.502	.000	1.21	3.79
Tandahimba distr	Mtwara distr	-2.016	.520	.001	-3.35	-.68
Temeke distr		-1.010	.470	.139	-2.22	.20

Ilala distr		.486	.475	.736	-.74	1.71
Temeke distr	Mtwara distr	-1.006	.497	.181	-2.29	.27
Tandahimba distr		1.010	.470	.139	-.20	2.22
Ilala distr		1.496	.451	.005	.34	2.66
Ilala distr	Mtwara distr	-2.502	.502	.000	-3.79	-1.21
Tandahimba distr		-.486	.475	.736	-1.71	.74
Temeke distr		-1.496	.451	.005	-2.66	-.34
Attitudes towards subjects						
Mtwara distr	Tandahimba distr	.058	.346	.998	-.83	.95
Temeke distr		.385	.330	.649	-.46	1.24
Ilala distr		.436	.333	.558	-.42	1.29
Tandahimba distr	Mtwara distr	-.058	.346	.998	-.95	.83
Temeke distr		.327	.314	.725	-.48	1.14
Ilala distr		.378	.317	.633	-.44	1.19
Temeke distr	Mtwara distr	-.385	.330	.649	-1.24	.46
Tandahimba distr		-.327	.314	.725	-1.14	.48
Ilala distr		.051	.300	.998	-.72	.82
Ilala distr	Mtwara distr	-.436	.333	.558	-1.29	.42
Tandahimba distr		-.378	.317	.633	-1.19	.44
Temeke distr		-.051	.300	.998	-.82	.72
Perceptions of examinations and academic achievements						
Mtwara distr	Tandahimba distr	.092	.358	.994	-.83	1.01
Temeke distr		.632	.341	.249	-.25	1.51
Ilala distr		.582	.343	.326	-.30	1.47
Tandahimba distr	Mtwara distr	-.092	.358	.994	-1.01	.83
Temeke distr		.540	.325	.346	-.30	1.38
Ilala distr		.490	.328	.440	-.35	1.33
Temeke distr	Mtwara distr	-.632	.341	.249	-1.51	.25
Tandahimba distr		-.540	.325	.346	-1.38	.30
Ilala distr		-.050	.309	.999	-.85	.75
Ilala distr	Mtwara distr	-.582	.343	.326	-1.47	.30
Tandahimba distr		-.490	.328	.440	-1.33	.35
Temeke distr		.050	.309	.999	-.75	.85
Perceptions of teacher support						
Mtwara distr	Tandahimba distr	.129	.538	.995	-1.25	1.51
Temeke distr		1.554	.516	.014	.23	2.88
Ilala distr		2.494	.519	.000	1.16	3.83
Tandahimba distr	Mtwara distr	-.129	.538	.995	-1.51	1.25
Temeke distr		1.425	.489	.019	.17	2.68
Ilala distr		2.365	.493	.000	1.10	3.63
Temeke distr	Mtwara distr	-1.554	.516	.014	-2.88	-.23
Tandahimba distr		-1.425	.489	.019	-2.68	-.17
Ilala distr		.940	.469	.187	-.27	2.15
Ilala distr	Mtwara distr	-2.494	.519	.000	-3.83	-1.16
Tandahimba distr		-2.365	.493	.000	-3.63	-1.10
Temeke distr		-.940	.469	.187	-2.15	.27

$P < 0.05$

These tests found that statistically significant differences between districts on the “attitudes to school”, “perceptions of school support”, “perceptions of school library and laboratories”, “perceptions of classroom makeup” and “perceptions of teacher support” subscales. The districts were found to be

statistically different on “attitudes to school” at ($F = 9.983, p < .002$), on “perceptions of school support” at ($F=4.280, p < 0.005$), on “perceptions of school library and laboratories” at ($F = 2.829, p < .037$), on “perceptions of classroom makeup” at ($F = 9.827. p < .000$) and lastly, on “perception of teacher support” at ($F = 11.326, p < .000$). Table 23 presents extracted findings from Tukey tests for the five subscales.

Table 23: Extracted findings from Tukey tests (table 22) for “attitudes to school”, “perceptions of school support”, “perceptions of school library and laboratories”, “perceptions of classroom makeup” and “perceptions of teacher support” subcales

		Mean differences (I-J)	Std Error	Sig	95% confidence interval	
					Lower Boundary	Upper Boundary
(I) Selected districts	(J) Selected districts					
Attitudes to school						
Mtwara	Ilala	-1.296	.425	.013	-2.39	-.20
Tandahimba	Ilala	-1.250	.406	.011	-2.29	-.21
Ilala	Mtwara	1.296	.425	.013	.20	2.39
Tandahimba		1.250	.406	.011	.21	2.29
Perceptions of school support						
Mtwara	Temeke	1.597	.453	.002	.43	2.76
Temeke	Mtwara	-1.597	.453	.002	-2.76	-.43
Perceptions of school library and laboratories						
Temeke	Ilala	1.095	.377	.020	.12	2.07
Ilala	Temeke	-1.095	.377	.020	-2.07	-.12
Perceptions of classroom makeup						
Mtwara	Tandahimba	2.016	.520	.001	.68	3.35
Ilala		2.502	.502	.000	1.21	3.79
Tandahimba	Mtwara	-2.016	.520	.001	-3.35	-.68
Temeke	Ilala	1.496	.451	.005	.34	2.66
Ilala	Mtwara	-2.502	.502	.000	-3.79	-1.21
	Temeke	-1.496	.451	.005	-2.66	-.34
Perceptions of teacher support						
Mtwara	Temeke	1.554	.516	.014	.23	2.88
	Ilala	2.494	.519	.000	1.16	3.83
Tandahimba	Temeke	1.425	.489	.019	.17	2.68
Ilala		2.365	.493	.000	1.10	3.63
Temeke	Mtwara	-1.554	.516	.014	-2.88	-.23
Tandahimba		-1.425	.489	.019	-2.68	-.17
Ilala	Mtwara	-2.494	.519	.000	-3.83	-1.16
Tandahimba		-2.365	.493	.000	-3.63	-1.10

Source: Data analysis, 2019

Homogenous grouping of the Tukey test results for the “attitude to school” subscale further found that differences in the means for Mtwara, Tandahimba and Temeke districts (18.89, 18.94 and 19.51 respectively) were not statistically significant, and that differences in the means for Temeke and Ilala (19.51 and 20.19 respectively) were not statistically significant. The homogenous subsets calculated by the Tukey

tests revealed two subsets with regard to the “attitudes to school” subscale: (a) Mtwara, Tandahimba and Temeke districts (b) Temeke and Ilala districts. The two subsets differed from each other to a statistically significant extent in respect of this subscale.

Homogenous grouping of the Tukey test results for the “perceptions of school support” subscale further found that differences in the means for Ilala, Tandahimba and Temeke districts (29.59, 29.69 and 28.80 respectively) were not statistically significant, and that differences in the means for Tandahimba, Mtwara and Ilala (29.69, 30.40 and 29.59 respectively) were not statistically significant. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “perceptions on school support” subscale: (a) Ilala, Tandahimba and Temeke districts (b) Tandahimba, Mtwara and Ilala districts. The two subsets revealed that these two groups differed from each other to a statistically significant extent in respect of this subscale.

Homogenous grouping of the Tukey test results for the “perceptions of school library and laboratories” subscale further found that differences in the means for Mtwara, Tandahimba and Ilala districts (11.99, 11.89 and 11.36 respectively) were not statistically significant, and that differences between the means for Tandahimba, Mtwara and Temeke (11.89, 11.99 and 12.46 respectively) were not statistically significant. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “perceptions on school library and laboratories” subscale: (a) Mtwara, Tandahimba and Ilala districts (b) Tandahimba, Mtwara and Temeke districts. The two subsets revealed that these two groups differed from each other to a statistically significant extent in respect of this subscale.

Homogenous grouping of the Tukey test results for the “perceptions of classroom makeup” subscale found that differences in the means for Tandahimba and Ilala districts (12.91 and 12.42 respectively) were not statistically significant, and that differences in the means for Tandahimba and Temeke districts (12.91 and 13.92 respectively) were not statistically significant; it also revealed that differences in the means for Temeke and Mtwara (13.92 and 14.92 respectively) were not statistically significant. The homogenous subsets calculated by the Tukey test revealed three subsets with regard to the “perception of classroom makeup” subscale: (a) Tandahimba and Ilala districts (b) Tandahimba and Temeke districts (c) Temeke and Mtwara districts. The three subsets revealed that these three groups differed from each other to a statistically significant extent in respect of this subscale.

Homogenous grouping of the Tukey test results for the “perceptions of teacher support” subscale found that differences in the means for Ilala and Temeke districts (20.93 and 21.87 respectively) were not statistically significant, and that differences in the means for Tandahimba and Mtwara (23.29 and 23.42 respectively) were not statistically significant. The homogenous subsets calculated by the Tukey test revealed two subsets with regard to the “perceptions of school library and laboratories” subscale: (a) Ilala and Temeke districts (b) Tandahimba and Mtwara districts. The two subsets revealed that these two groups differed from each other to a statistically significantly extent in respect of this subscale. Table 24 shows homogeneous grouping of Tukey test results.

Table 24: Homogenous grouping of the extracted findings of Tukey tests (Table 23) for the “attitudes to school”, “perceptions of school support”, “perceptions of school library and laboratories”, “perceptions of classroom makeup” and “perceptions of teacher support” subscales

Selected districts	N	Subsets for alpha =0.05		
		1	2	3
Attitudes to school				
Mtwara	200	18.89		
Tandahimba	236	18.94		
Temeke	291	19.51	19.51	
Ilala	279		20.19	
Sig.		.446	.353	
Perceptions of school support				
Temeke	292	28.80		
Ilala	280	29.59	29.59	
Tandahimba	239	29.69	29.69	
Mtwara	199		30.40	
Sig.		.190	.255	
Perceptions of school library and laboratories				
Ilala	280	11.36		
Tandahimba	240	11.89	11.89	
Mtwara	199	11.99	11.99	
Temeke	292		12.46	
Sig.		.653	1.000	
Perceptions of classroom makeup				
Ilala	280	12.42		
Tandahimba	238	12.91	12.91	
Temeke	292		13.92	13.92
Mtwara	196			14.92
Sig.		.750	.161	.164
Perceptions of teacher support				
Ilala	280	20.93		
Temeke	289	21.87		
Tandahimba	238		23.29	
Mtwara	198		23.42	
Sig.		.245	.994	

Source: *Data analysis, 2019*

Grouping districts with similar means shows that there are distinct regional differences on the “perception of teacher support” subscale, and that students in districts of the Dar es Salaam region (Ilala and Temeke) have very different perceptions of their teachers compared with students in the districts of Mtwara region. This is also true for the “attitudes to school”, “perceptions of school support”, “perceptions of school library and laboratories”, and “perception of classroom makeup” subscales. However the difference is less obvious in these four subscales because of overlaps with the means of districts in other regions, either Mtwara or Dar es Salaam. Additionally, students have more positive perceptions of teacher support in the districts of Tandahimba and Mtwara than in the districts of Ilala and Temeke. There are thus big differences between the regions in relation to the “perceptions of teacher support” subscale.

The results further indicate that students in all districts have higher engagement in relation to perceptions of school support; the means for the “perceptions of school support” subscale for all four districts are higher than the means for other subscales to a statistically significant degree. In addition, the means of the districts of Mtwara and Tandahimba are higher than the means of Ilala and Temeke for the “perceptions of school support” subscale. This shows that although students in all the four districts show higher engagement in relation to the “perceptions of school support” subscale, students of the Mtwara and Tandahimba districts have more positive perceptions of school support than those of the Ilala and Temeke districts. Moreover, the results also indicate that students of the Mtwara and Tandahimba districts have higher engagement in relation to all significant subscales except for “attitude to school”.

The findings on the differences between the means of the districts partially support the first null hypothesis. Significant difference was found between district means for five of the seven subscales used to measure engagement with schooling.

In examining the second hypothesis, H₀₂ of inferential question two, an independent t-test was applied to the data collected from Mtwara region and Dar es Salaam region. Table 25 below depicts the test findings.

Table 25: Differences between the means for Mtwara region and Dar es Salaam region on student engagement with schooling subscales

Subscales for measuring student engagement	Region	N	Mean	SD	Levene's F	Levene's Sig	T-test T	T-test df	T-test Sig
Attitudes to school	Mtwara	436	18.92	4.750	2.890	0.089	-3.160	1004	.002
	Dar es Salaam	570	19.84	4.471			-3.134	906.197	.002
Perceptions of school support	Mtwara	438	30.01	4.643	5.968	.015	2.638	1008	.008
	Dar es Salaam	572	29.19	5.149			2.674	981.489	.008
Perceptions of examinations and academic achievement	Mtwara	427	26.02	3.544	3.639	.057	2.366	992	.018
	Dar es Salaam	567	25.46	3.779			2.387	945.881	.017
Perceptions of teacher support	Mtwara	436	23.35	5.383	4.607	.032	5.463	1003	.000
	Dar es Salaam	569	21.40	5.757			5.511	964.344	.000

$P < 0.05$

The test found that the mean score ($M=19.84$, $SD=4.471$) of Dar es Salaam on the “attitudes to school” subscale was higher to a statistically significant extent ($t = -3.160$, $df = 1004$, $p < 0.002$) than the mean score ($M = 18.92$, $SD = 4.750$) of Mtwara. This shows that students in Dar es Salaam had more positive attitudes to school than students in Mtwara. The test further found that the mean score ($M = 30.01$, $SD = 4.643$) of Mtwara on the “perception of school support” subscale was higher to a statistically significant extent ($t = 2.674$, $df = 981.489$, $p < 0.008$) than the mean score ($M = 29.19$, $SD = 5.149$) of Dar es Salaam. This finding also shows that students in Mtwara had a more positive perception of school support than students in Dar es Salaam. The test also found that the mean score ($M = 26.02$, $SD = 3.544$) of Mtwara for the “perceptions of examinations and academic achievement” subscale was higher to a statistically significant degree ($t = 2.366$, $df = 992$, $p < 0.018$) than the mean score ($M = 25.46$, $SD = 3.779$) of Dar es Salaam. Students in Mtwara had more positive perceptions of examinations and academic achievement than students in Dar es Salaam. Moreover, the independent t-test found that the mean score ($M = 23.35$, $SD = 5.383$) for Mtwara was higher to a statistically significant degree ($t = 5.511$, $df = 964.344$, $p < .000$) than the mean score ($M = 21.40$, $SD = 5.757$) for Dar es Salaam in relation to the “perceptions of teacher

support” subscale. This means that students in Mtwara have more positive perceptions of their teachers than students in Dar es Salaam.

Table 26: Differences between the means of Mtwara region and Dar es Salaam region on the “perceptions of school library and laboratories”, “perceptions of classroom makeup” and “attitudes towards subjects” subscales.

Subscales of student engagement	Region	N	Mean	SD	Levene’s F	Levene’s Sig	T-test T	T-test df	T-test Sig
Perception of school library and laboratories	Mtwara	439	11.93	4.707	3.159	0.076	0.050	1009	.960
	Dar es Salaam	572	11.92	4.376			0.050	905.939	.960
Perceptions of classroom makeup	Mtwara	434	13.82	5.574	1.875	.171	1.823	1004	.069
	Dar es Salaam	572	13.19	5.357			1.813	912.599	.070
Attitudes towards subjects	Mtwara	432	7.93	3.756	4.516	.034	1.658	998	.098
	Dar es Salaam	568	7.55	3.430			1.638	881.672	.102

$P < 0.05$

Analysis of the differences between regions on the remaining three subscales of student engagement with schooling did not find any statistically significant difference between mean scores for the remaining three subscales, namely “perceptions of school library and laboratories”, “perceptions of classroom makeup” and “attitudes towards subjects”, significance levels being above 0.05 ($p > 0.05$). Hence the null hypothesis for the remaining three subscales of student engagement with schooling was supported. For these three subscales, the test first found that the mean score ($M=11.92$, $SD=4.376$) of Dar es Salaam for the “perceptions of school library and laboratories” subscale did not differ to a statistically significant extent ($t = 0.050$, $df = 1009$, $p = 0.960$) from the mean score ($M = 11.93$, $SD = 4.707$) for Mtwara region. This shows that students in Dar es Salaam and students in Mtwara had similar perceptions of school libraries and laboratories. The test also found that the mean score ($M = 13.19$, $SD = 5.357$) for Dar es Salaam on the “perception of classroom makeup” subscale did not differ to a statistically significant degree ($t = 1.823$, $df = 1004$, $p = 0.069$) from the mean score ($M = 13.82$, $SD = 5.574$) for Mtwara. This finding also shows that students in Dar es Salaam had similar perceptions of classroom makeup to students in Mtwara. Finally, the test found that the Dar es Salaam mean score ($M = 7.55$, $SD = 3.430$) on the “attitudes towards subjects” subscale did not differ to a statistically significant degree ($t = 1.638$, $df = 881.672$, $p = 0.102$) from the

mean score ($M = 7.93$, $SD = 3.756$) for Mtwara. This shows that students in Dar es Salaam and students in Mtwara had similar attitudes towards the subjects they were studying.

These results indicate that students in Mtwara are more highly engaged than those in Dar es Salaam, as they were found to be more highly engaged on the “perceptions of school support”, “perceptions of teacher support” and “perceptions of exams and academic achievement”. Conversely, students in Dar es Salaam were found to be more highly engaged than those in Mtwara region only in relation to the “attitude to school” subscale.

The findings on the differences between regional means also partially supported the second null hypothesis, because they showed that there were significant differences between the regional means on four out of the seven subscales of student engagement with schooling (attitudes to school, perception of school support, perception of exams and academic achievement, and perception of teacher support).

CHAPTER SIX

6. DISCUSSION

This final chapter presents discussion of the findings by interpreting them with reference to other studies. It first starts by presenting an interpretation of the research instrument used together with an interpretation of the demography of the respondents who participated in the study. The chapter then provides interpretations of the major findings of the study based on the research questions, the hypotheses and correlations between the subscales. Next, the chapter analyses the interpretations of the major findings in the light of the EEO principle before synthesizing them into a general interpretation. It then describes the limitations discovered during the conduct of the study and summarizes the study as a whole before presenting final conclusions. Lastly, the chapter recommends actions for future practice relation to student engagement, proposing changes in education policy where possible or necessary, and suggesting areas for further study.

6.1 Interpretation of Findings

6.1.1 Research Instrument

Principal component analysis was conducted using promax (oblique) rotation to assess clustering of the psychometric scale items. Orthogonal rotation (assuming that the factors under analysis were uncorrelated) and oblique rotation (assuming the factors were correlated) revealed correlation between the factors (components) when oblique rotation was applied. Oblique rotation was deemed appropriate in the context because factors in psychological research are rarely uncorrelated and independent. According to Brace et al. (2006), it is plausible to expect a priori that underlying dimensions in the psychological domain will be correlated. She goes on to say that a simple structure is best obtained by oblique rotation methods without the restrictive assumptions required for orthogonality, giving a considerably better fit between data and model. Linnebrink and Pintrich (2002) believe that all three dimensions (emotional, behavioural and cognitive) of engagement are correlated both among and between the three dimensions. Brown and Hirschfeld (2008) demonstrated that when identification of the basic structuring of variables into theoretically meaningful subdimensions is the primary concern of the researcher, then any method of rotation will be successful in finding said structure. Promax rotation was thus selected, to allow for the factors to be correlated (Brace et al., 2006; Brown and Hirschfeld, 2008). Comparisons between standardized factor loading for items revealed that items relating to “perceptions of teacher support” were better indicators of student engagement than other items on other subscales. This was followed by

comparison of the items on the “perceptions of school support” and “attitudes to school” subscales; perception of examinations and academic achievement, perceptions of classroom configuration, perceptions of library and laboratories and attitudes towards subjects subscales. This study thus found “perceptions of teacher support” to be the strongest predictor of student engagement.

The study found weak correlations between subscales of student engagement with schooling. However, according to Cohen et al., (2007) where correlations range from .35 to .65, crude group prediction may be possible. Borg (1963) as cited in Cohen et al. (2007) also notes that correlations within this range are useful. Cohen et al (2007) further add that combining several correlations in this range can in some cases yield individual predictions that are correct within an acceptable margin of error. This confirms that it was worth comparing findings for the following subscales: attitudes to school and perceptions of school support ($p = .525$), attitudes to school and attitudes to examinations and academic achievement ($p = .36$), attitudes to school and perceptions of school library and laboratories ($p = .36$), attitudes to school and perceptions of teacher support ($p = .40$), perceptions of school support and perceptions of examinations and academic achievement ($p = .45$), perceptions of school support and perceptions of teacher support ($p = .44$) and perceptions of school library and laboratories and perceptions of teacher support ($p = .39$).

6.1.2 Demographics

Most of the students who responded to the questionnaire for the study were male ($n=535$, 51.9%). The proportion of genders in the sample was almost equal, which mirrored that of the study population. Gender equality can thus be said to be a good proxy for EEO in these two coastal regions of Tanzania. Students in the sample ranged in age from 14 to 22 years old; however, ($n=9$, 0.9%) were more than 19 years old, and only ($n=14$, 1.4%) were 14 years old. This is the best age to participate in secondary school education, as stipulated in many policy documents such as Secondary Education Master Plan (URT, 2000b), Tanzania Education Sector Analysis (URT, 2012b), Sera ya Elimu na Mafunzo (URT, 2014), and Tanzania Education Policy of 1995 (URT, 1995). In addition to this, students were drawn from forms three and four ($n=961$, 93.2%) and form two ($n=69$, 6.7%) because students at these levels have participated in secondary education for more than one year and therefore had more experience of schooling than those in form one.

More than half the participants came from Dar es Salaam ($n=576$, 55.9%) and the rest ($n=455$, 44.1%) came from Mtwara. This proportion was justified because of the difference in the populations of the two regions. Dar es Salaam is the first and largest commercial city in Tanzania and has a higher population

relative to its size than other regions; Mtwara, being a municipal region (the level below a city) and among the regions with the smallest populations in Tanzania, understandably has a lower number of students in its secondary schools compared with Dar es Salaam. The greatest number of participants came from Temeke district (n=295, 28.6%) followed by Ilala district (n=281, 27.3%) (both in Dar es Salaam), then Tandahimba district (n=249, 24.2%) and lastly Mtwara (n=206, 20%) (both in Mtwara).

6.1.3 The extent of student engagement with schooling

Students' perceptions of the support they got from their schools were significantly more positive than for other aspects relevant to student engagement, and more positive again than their feelings about their schools and the subjects they were studying. This finding is congruent with those of the PISA 2000 study (Willms, 2003), which found that when students find their schools supportive, they have high expectations of them and thus engage more with them. This was confirmed for most of the items in the present study: for instance, almost all students (90.69%) said that they learned many things at school and many (85.94%) said their school encouraged them to think for themselves. A large proportion of students also felt that their schools increased their desire to learn, learn new things quickly, and encouraged them to think for themselves and be creative. It is clear from this that when students have a strong perception that they can learn many things while they are at school, they also have a strong belief that they can also achieve good grades. Moreover, tight rules encouraged students to study hard (77.98%); this supports the work of Konold et al. (2018), which revealed that a more authoritative school climate is linked to higher levels of student engagement. For no item in this study did students show a less positive response than 70% in relation to the way they perceive the support they got from their schools. Students thus clearly valued very much the overall experience provided by their schools. As Cavendish (2013) made clear, schools that provide supportive environments have an impact on students' capacities and opportunities for success, and this maintains and enhances their commitment to school.

The findings also depicted students as having positive attitudes to their schools, although these were not as positive as their perceptions of the support they got from their schools. For instance, most students liked their schools (70.70%), enjoyed learning (72.45%), and felt lucky to be at their schools (71.38%). Thus when students perceive schools as supportive, they also feel positive about their schools. Candeias et al., (1996) and Kpolovie et al. (2014) demonstrated that schools that are more supportive arouse more positive attitudes. Hagenauer and Hascher (2010) also found that when students feel a sense of belonging in relation to their schools, they have a positive perception of the aspiration generated by the schools they attend,

including good grades. This means that students who have stronger perceptions that their schools are supportive have more positive attitudes to their schools and feel more satisfied with them. In relation to this, the present study found a high degree of correlation ($p=0.525$) between the “attitudes to school” and “perceptions of school support” subscales. This means that the stronger students’ perceptions of school support, the more positive attitudes were generated in them towards their school. In other words, the more students perceived that schools supported them in various ways, the more they felt a sense of belonging in relation to their schools. The more they perceived that they were learning a lot at school, that they learned quickly and were encouraged to think for themselves, the happier they were at school, the more they felt lucky to be at their school, the more they enjoyed learning, and the less they wished they attended schools other than those at which they were pursuing their studies. Moreover, the more students perceived schools as encouraging them to be creative, school rules as encouraging them to study, schools as helping them achieve good grades, and school activities as boosting their desire to learn, the more they liked school, enjoyed learning, felt lucky be attending their school, were happy, and did not wish they were attending another school. The more students felt they belonged to schools the more they perceived that the schools had expanded their abilities to “be creative”, “learn new things quickly”, “think for themselves” and “boosted their desire to learn”. Furthermore, the more students felt they belonged to schools, the more they perceived that they were acquiring what they wanted to acquire from schools, such as learning lots of things, studying hard, and getting good grades.

Apart from students having a very positive perception of the support they were getting from their schools and demonstrating positive attitudes towards their schools, the students in the present study also had a positive perception of their examinations and academic achievements. Almost all the students (92.23%) perceived their exams as a true measure of their academic success, and thought that their good academic achievement made them study hard (87.87%). Although not all students said they could understand national examination questions and school examination questions (68.95% and 77.70% respectively), and not all of them thought they were well-prepared for national examinations or were proud of their academic achievement (79.53% and 69.34% respectively), the majority acknowledged that examinations were a true measure of their academic success and that their academic achievement made them study hard. An explanation for this is that since the students perceived their exams as being a true measure of academic success, they also believed that the examinations (whether school or national) would be comprehensible; they thus believed that what they have studied would be what was assessed and did not fear examinations. This therefore, ensured they prepared well for examinations. Moreover, participants acknowledged that any effort they put in represented an increase in their efforts to study hard, and would result in them being

proud of their achievement; which in turn led to more positive perceptions of examinations and academic achievements. Students had perceptions of examinations and academic achievement that were as positive as their perceptions of the support they received from their schools, but not as positive as how they felt about their schools. The findings show that neither of the items on the “attitudes to school” subscale has a score of more than 73%, although the present study has shown some correlation between these two subscales. With regard to correlation, this study shows that there is an association, albeit a weak one ($p=0.36$), between the “examination and academic achievement” subscale and the “attitudes to school” subscale. This means that as the students demonstrated a positive attitude to school (feeling a sense of belonging with their schools), they were likely to have a positive perception of school exams or national exams, but also likely to have a strong perception that these two kinds of examination were a true measure of academic success. The findings also explain that where students felt a sense of belonging with their schools, they also had a strong perception that their academic achievements made them study hard; in addition, it made them proud of their achievements. PISA 2000 (Willms, 2003) shows a similar correlation, although this is between students who have a strong sense of belonging and those who performed better in the PISA assessment. The correlation is very weak ($p = .06$), however, indicating that students’ sense of belonging is not always accompanied by strong performing in examinations. There are also many instances of students having a sense of belonging but performing poorly in examinations. However, the work of Kpolovie et al. (2014) supports the correlation: they studied attitude to school as a predictor of academic achievement, and found that academic achievement is significantly predicated on both attitude to and interest in school, with the two predictors jointly accounting for as much as 21.6% of variance in student academic achievement. Berends (1995) also confirms this, saying that students who feel connected to their schools are more motivated to achieve and have higher academic expectations for themselves. The findings of the present study, therefore, when taken with the correlations uncovered by PISA 2000 (Willms, 2003) and the findings of Kpolovie and colleagues (Kpolovie et al., 2014) and Berends (1995) show that the students’ attitude to school had a certain positive relationship with their perceptions of examinations and academic achievements. The weak correlation found in the present study can be attributed to the fact that sometimes students decide about what direction to take in their lives after they have finished school or even after they have graduated; this does not require them to put any effort into their examinations and does not correspond with the kind of outcome that relates to academic achievements (Willms, 2003). Willms (2003) further explains that for individual students, performance and attitude to school do not always go hand in hand, as there may be a proportion of students who have a positive attitude to school but are low achievers, and others who have a negative attitude to school but are high achievers. However, the present study also

found an association between the way the students perceived the support they got from their schools and the way they perceived their examinations and academic achievements ($p = .45$). Although this association is moderately weak, it implies that when the students had a positive perception of the support they got from their schools, they also had a strong perception that they could do better in their examinations and could achieve good academic results, even where they were performing poorly. This is consistent with the explanations of Wang and Eccles (2013) that the intergration of the mixture of realities of schools when compiled together convey a certain picture of a school to the students. When students find that a certain school type is able to help them achieve many or most of their expectations, their academic motivation and interest, and hence their engagement, also increases. Where students find that a school is not able to support them in achieving their expectations, their academic motivation and interest decrease, as does their engagement with that school (*ibid*). However, as Konold et al. (2018) observed, sometimes students' positive perception of the support they get from their schools may not provide a clear guide if it helps them achieve in their examinations. This may be also the reason that the present study noted a relatively weak correlation between these two subscales.

The findings on perceptions of teacher support indicate that the students found their teachers moderately supportive. The highest score for an item was 69.54% while others ranged between 53% and 67%. The study also revealed that not many students perceived they had sufficient support, because only some students said they were involved by their teachers in study activities, were helped by their teachers when they had study problems, were helped by their teachers when preparing for their examinations and were able to talk to their teachers about their study difficulties. Moreover, only some students said that teachers paid attention to their study problems. On the contrary however, low numbers of students found that teachers were unfair to every student, which implies most of them found teachers fair to everyone. This indicates that students perceived teachers to be supportive, but not to such a degree as might have been expected. Teachers were not engaging students in their studies and school experiences to the levels expected by the students. On this, Daw and Robinson (2013) assert that students perceive their teachers as supportive when they engage them with learning. The findings of Ryan and Patrick (2001), who assessed classroom emotional support to students using students' perceptions of how respectful, responsive and sensitive their teacher was, throw further light on this. They revealed that when students perceive that their teachers care for them and understand and support them, they also engage more in learning, get less off-task and demonstrate less disruptive behaviour in the classroom. Moreover, Klem and Connell (2004) found that student engagement with schooling was higher among students who were taught by teachers

whom students perceived as caring and supportive of autonomy, and who created well-structured learning environments. The association between the “perceptions of teachers support” and “attitude to school” subscales, which is found to be moderately weak ($p = 0.40$), further elucidates this finding. Although weak association is in line with Ndalichako and Komba’s (2014) findings that students’ positive attitudes increase in the context of better teaching practices. In their study of “Students’ Subject Choice in Secondary Schools in Tanzania”, Ndalichako and Komba (2014) found that not only do good teaching practices increase students’ positive attitudes in the classroom, they also increase students’ interest in learning. Jones et al. (2008) substantiates this, revealing that students can sense whether teachers cares or not. He adds further that, when students find teachers have an interest in students as individuals, they know them by name and talk to them not only in the classroom but also during other school activities and care about their progresses (*ibid*). The present study found that students who had a positive perception of the support they received from teachers also had a positive perception of the support they got from their schools. A correlation was found ($p = .44$) between the “perceptions of teacher support” and “perceptions of school support” subscales. This supports the claim of Konold et al. (2018) that teachers are perceived as highly supportive in schools whose climates are perceived as supportive. School climates that are supportive, according to Konold et al. (2018) are schools with strong discipline, schools that convey high academic expectations to students and their parents, schools where students experience school rules as strict and fair. This kind of climate allows teachers to work hard and develop students’ expectations (*ibid*). In addition to Konold et al. (2018), the present study is also supported by the results of the PISA 2000 study, which explain that in schools where students get on well with their teachers, the students experience a stronger disciplinary climate as supportive (Willms, 2003).

The findings of this study also revealed moderately positive attitudes towards the subjects students studied, although no single item attracted the total score below 59%. However none of the items had a total score above 85%. This leads to the conclusion that although many students felt positive about the subjects they were studying, they felt less positive about this than about the support they got from their schools and than about their examinations and academic achievements. Although many students evinced positive attitudes towards the subjects they were studying, many of them have more positive perceptions of the support provided by their schools, their examinations and their academic achievements. This further implies that a good number of students: liked many of the lessons in different subjects, participated well in many subjects, liked most subjects and found that most subjects were not too tough for them. Some support for this comes from Eom et al., (2006) who explain that students who have a positive perception of the overall usability

of their subject are likely to be satisfied and then more engaged with their learning. Although the present study did not find any correlation between the “attitudes towards subjects” subscale and other subscales, there is some evidence of correlation between students’ attitudes towards the subjects they study and their perceptions of support from teachers. The studies of Lynch and Baker (2005) and Ndalichako and Komba (2014), for instance, found that students who feel supported by teachers tend to like the subjects they are taught by those teachers. Moreover, Lynch and Baker (2005) found that students who have more positive attitudes to academic work value the subjects they are studying.

Contrary to previous findings, this study found students to have a moderately negative perception of the influence of their school libraries and laboratories on their schooling. This is derived from the scores for the items on the “perceptions of the school library and laboratories” subscale, which were between 32.67% and 50.05%. Few students (40.54%) were motivated to learn by their school libraries, while only 32.67% of students said they could study easily in school libraries. This might have been because most of the libraries at these students’ schools were not equipped with the relevant materials such as books, newsletters and texts. It is possible that the libraries are simply buildings with no or few texts that are not of interest to most students. Only 32.97% of respondents said that the materials in their school laboratories increased their desire to learn. Laboratories may not have essential materials such as science equipment and chemicals, or may only have small quantities of them. Laboratory buildings may be only equipped with laboratory tables and chairs, which may reduce students’ desire to learn in them. Only 50.05%, ie. half of students reported enjoying being in their schools’ laboratories. Students who do not enjoy being in these facilities may find that they do not achieve what they expect to achieve while they are in these rooms. The present study’s contention that many students have negative perceptions of the laboratories and libraries of their schools, possibly because they are poorly equipped, has also been put forward in analysis undertaken by the Ministry responsible for secondary education. This explains that one of the challenges in the provision of secondary education in Tanzania is the inadequacy of laboratories and libraries and their associated facilities (Kapinga, 2017; URT, 2018). Further investigation of the present findings revealed a correlation between the “attitudes to school” and “perceptions of school library and laboratories” subscales. Although the correlation is weak ($p= 0.36$), it provides a certain crude group prediction as suggested by Cohen et al., (2007). The PISA 2000 study (Willms, 2003) establishes that schools with good quality infrastructure have students who feel good at school. PISA 2000 also found that students’ sense of belonging (i.e. attitude to school) is associated with a wide range of school characteristics such as school facilities (*ibid*). This means that schools with good facilities create a sense of belonging in their students.

In other words, students who have a positive attitude to school have a positive perception of their school facilities and their school's resources. Further analysis also found a correlation, albeit also weak ($p = .39$), between the "perceptions of school library and laboratories" and "perceptions on teachers support" subscales, indicating that students with a positive perception of the library and laboratories also had a positive perception of the support they got from their teachers. On this, Lynch and Baker (2005) and Ndalichako and Komba (2014) make clear that students who feel supported by their teachers also have a positive perception of school infrastructure such as laboratories and other associated facilities.

The findings of the present study also dealt with classroom makeup, and found that students had less positive perceptions of classroom makeup like of libraries and laboratories: none of the items scored above 66.18%. This implies that the classrooms of these schools may not be in sufficiently good order to be appreciated by their most frequent users, namely the students. Students may be studying in classrooms where most of the equipment is broken or not in good order, including chairs, desks, bookcabinets, noticeboards and blackboards. In addition to equipment not being in good order, other equipment, especially book cabinets, may be inadequate or indeed may be entirely lacking. Only (41.85%) of students in this study perceived classroom infrastructure as adequate. Students also reported studying in classrooms whose infrastructure including windows, flows doors, was not be in good order or was broken. Only (41.85%) perceived classroom infrastructure as being in good order. Classroom blackboards, which are the main point of communication between teachers and students in most African countries including Tanzania, were also revealed as broken for that purpose. A bit more students (18.61%) said that classroom noticeboards were not worn out. On this issue, URT (2018) and Kapinga (2017) have been clear that physical facilities such as classrooms, desks and chairs have been a problem. Major issue include a lack of adequate facilities and shortages of permanent classrooms, particularly in poor districts, the poor state of existing school infrastructure due to lack of investment, poor construction standards and inadequate maintenance (*ibid*). Further analysis did not identify a correlation between the "perception of classroom makeup" subscale and other subscales. However, as classrooms are an educational facility, they can be associated with students' attitudes to school and perceptions of support from teachers in a similar way to perceptions of school libraries and laboratories. Students who have positive attitudes to school usually have positive perceptions of school infrastructure (Willms, 2003) and students who have positive perceptions of their teachers also have positive perceptions of school infrastructure (Lynch and Baker, 2005; Ndalichako and Komba, 2014).

6.1.4 Impact of student characteristics on engagement with schooling

The present study evaluated the impact of differences in three individual student characteristics, namely gender, age and class level, on student engagement with schooling. All the three null hypotheses relating to the three characteristics were partially supported. In relation to the subscales of each characteristics in which the null hypotheses were not supported, the following interpretation of the findings was drawn.

Gender differences

The study revealed differences in favour of girls as consistent with many recent researches (Finn, 1989 cited in Marks, 2000; Freudenthaler et al., 2008; Veiga, 2016). Female students had a strong perception that schools supported them with the range of school experiences, including learning; moreover, they had a stronger perception than male students that teachers supported them with their learning and other school experiences, they also had more of a sense of belonging with their schools than male students. Further examination of the findings reveals that there was significant variation in the extent of these perceptions and feelings both for female and male students. Both genders had a more positive perception of the support they got from their schools than of the support they received from their teachers, but they had a more positive perception of the support they received from teachers than of the way they felt about their schools. This means that both genders' perceptions of their experience of their schools were more positive than their perceptions of their teachers. Both genders valued what schools provided more than what teachers provided. With regard to how they felt about their schools, both genders felt more positive about the support they received from their teachers more than about their attachment to their schools.

Age group differences

Students aged 15 and below engaged differently with schooling from students aged 16, 17 and 18 and above, especially in terms of their perception of school libraries and laboratories; although they also showed differences in terms of their attachment to their schooling. Students aged 15 are less engaged with schooling than students aged 16, 17 and 18 and above. This indicates that students start to engage again with schooling at the age of 16 and above. The findings of the present study also show that students aged 16, 17 and 18 and above demonstrate similar engagement with schooling. In line with the findings of the PISA 2000 study (Willms, 2003), Hill and Russel (1999) and other non-European countries (Olson, 2005) that students are at peak of disengagement at the age of 15, students aged 15 years and under show disengagement from schooling due to the mismatch between their schooling and their adolescent development. This causes students to show lack of enjoyment of school and less affection for it (Hill and

Russel, 1999; Olson, 2005) as the present study confirms, one of the major differences between the age groups of 15 and below, and 16, 17 and 18 and above is in relation to attitude to school. Students aged 15 and below have wishes and desires that are different from what schools provide. This age group requires different experiences outside of their normal classroom sessions, for instance in libraries, laboratories, playgrounds, dining halls and assembly halls, and when students find that these areas do not provide what they think they should, they are disappointed. Hence the present study found that the differences between the 15 and below age group, and the 16, 17 and 18 and above age group focus on perceptions of school libraries and laboratories. In relation to this area, Wigfield and others (Wigfield et al., 2015) argue that secondary school environments are usually not congruent with students' developmental needs. The possible sources of incongruences include limited opportunities for student autonomy and decision-making, less caring and supportive teacher-student relationships, and increases in teacher control, social comparisons, and competitions (Roeser et al., 2009; Wang and Eccles, 2012).

Class level differences

The present study found that students in different class levels engaged differently because they are exposed in different subject matter (Cooley and Leinhart, 1975, cited in Williams and Whiting, 2016); Klem and Connell, 2004). One would have expected all three class levels to engage differently in the three subscales that were found not to be statistically significant; however, only form two students engaged differently from forms three and four on the "attitude towards school" subscale. Similarly, form two students' perceptions of school libraries and laboratories and classroom makeup differed from those of students in forms three and four.

It was expected, as Klem and Connell (2004) and Cooley and Leinhart (1975) cited in Williams et al. (2005) assert, that students would become less engaged as they progressed to higher levels. Here again, the present study found that the engagement of students in forms three and four in relation to the "attitudes to school" and "perception of school library and laboratories" subscales was lower than that of form two. This finding does not show progressive engagement on the part of students as they move up from one class to the next, rather it implies that students in lower class levels are more highly engaged with their schooling than students in higher class levels. The exception however, was the "perceptions of classroom makeup" subscale, where form two students showed lower engagement than students in forms three and four.

6.1.5 Student engagement dimension levels

All secondary school students demonstrated moderate low level of behavioral engagement compared with the other engagement dimensions (emotional and cognitive). Comparing cognitive engagement and emotional engagement alone, students were found to have higher emotional engagement. Consistent with the findings of Finn et al. (1995) and Wang and Eccles (2012) that most students demonstrate reduced levels of behavioral engagement in adolescence and the same researchers' findings that students going through adolescence demonstrate higher emotional engagement than cognitive engagement, the present study went further and investigated the interrelationships of all three engagement dimension levels. In this context, students demonstrated high emotional engagement followed by moderately high cognitive engagement and lastly moderately low behavioral engagement. This is a result of the students feeling more strongly that they belonged with their schools than that they learned different things at their schools, and much less strongly that they were involved with the various activities at their schools. Students also had a much more positive perception of examinations and the associated academic achievement than the preparation for such examinations and the taking of examinations. Furthermore, students' perceptions of enjoyment at being in their laboratories, libraries and classrooms were more positive than their perceptions of learning within those areas, and far more positive than their perceptions of participation in learning activities in those areas. Students also liked their subjects more than studying those subjects and far more than participating in lessons for those subjects.

6.1.6 Differences between schools as regards engagement dimensions

The differences between the two categories of school were focused solely on behavioural engagement; in the other two dimensions (emotional and cognitive) the schools showed similarities. NSS students demonstrated higher levels of behavioural engagement than students in SSAL, in line with the assertions of Davies et al. (2013) and Pettigrew and Tropp (2006) that contact within groups reduces prejudice, feelings of threat and anxiety, and increases tolerance, which in turn increases positive behaviours towards schooling. In other words, contact within groups increases behavioural engagement by reducing unreasonable dislike of others and feelings of worries about others. This is somewhat counter-intuitive, since it might be expected that students in SSAL would have higher behavioural engagement than students in NNS, in line with Trevino's claim (2018) that students in heterogeneous schools have the opportunity to learn from a more diverse student body and share their experiences, which influences their attitudes and behaviours. The profile of students in SSAL is more heterogeneous in terms of age and gender (as these schools include A-level students who are older than those in NSS and are either all-male or all-female) and

as Trevino (2018) points out, one might assume this would result in higher behavioural engagement than in NSS.

6.1.7 Zonal differences in student engagement with schooling

The present study investigated the differences between districts and regions in relation to student engagement with schooling. Both null hypotheses in relation to districts and regions were partially supported. From the subscales in which the null hypotheses were not found to be supported, the following interpretations were drawn:

Differences between districts

Differences in student engagement at district level imply that the dispersion of students within districts affected their engagement with schooling. There were greater differences in student engagement between districts that were far away from each other than between districts that were close to each other. Students in the districts of Mtwara and Tandahimba, which are close to each, demonstrated different engagement from students in the districts of Ilala and Temeke, which are close to each other. There were also differences in engagement on the part of students in districts that were close to each other, although these differences were not as pronounced as the differences from districts that were more distant. Differences in engagement can be attributed to differences in learning environments as Usaini et al. (2015) discovered in their study, showing that students whose schools are in similar localities show similar engagement than students whose schools' localities differ. The researchers further explain that there may be even distribution of resources and facilities to schools but the exploitation of these resources and facilities may be influenced by other factors such as the geographical location of the schools, all of which may ultimately lead to differences in student engagement. Furthermore, it has been shown that students in the Mtwara and Tandahimba districts were more engaged more with their schooling than students in the Ilala and Tandahimba districts for all significant subscales except for "attitude to school". In line with studies by Gemici and Lu (2014) and Usaini et al. (2015) showing that students in rural and semi urban areas were more engaged with their schooling than students in urban areas, the present study also found that students' perceptions of teacher support, classroom makeup, school infrastructure and school support for students in the districts of Mtwara and Tandahimba (which are more suburban) were more positive than in Ilala and Temeke (which are urban area). The higher engagement levels for students in the Mtwara and Tandahimba districts are illustrated by these students' differing perceptions of their schools, schools' infrastructure and classrooms and teachers compared with students in Ilala and Temeke. Students in Mtwara and Tandahimba perceive schools and

their associated resources as shaping their whole life, but those in Ilala and Temeke perceive schools and their associated infrastructure and equipment as preparing them for school and national examinations so that they can perform to the required academic level, which in turn prepares them for their future lives or for more advanced education. Student perceptions of teacher support in Mtwara and Tandahimba are clearly different: teachers are perceived as shape the whole school experience and ultimately the whole of students' lives while they continue with their schooling. Students in Ilala and Temeke perceive their teachers simply as agents who prepare them for school and national examinations rather than for the rest of their life. On the other hand, students in Ilala and Temeke have more positive attitudes to schools than those in Mtwara and Tandahimba. This can be explained by the fact that most students in urban areas or cities view the purpose of schooling as being preparation for examinations, and they therefore end up being more attached to their schooling, and thus are found to be more engaged than students in rural and suburban areas. However, this finding is at odds with many previous findings that students in urban areas are more engaged with their schooling than those in suburban or rural areas (Finn, 1993; Lleras, 2008).

Regional differences

Differences in student engagement between regions imply that the location of students within regions can also affect their engagement with schooling. As has been noted in relation to differences between districts, Gemici and Lu (2014) and Usaini et al. (2015) make clear that students in some rural and suburban areas are more engaged with their schooling than those in urban area; similarly, students in Mtwara have a more positive perception of the support they receive from their schools, their examinations and the support they receive from their teachers than students in the Dar es Salaam region. The better perceptions that prevail amongst the students in Mtwara are associated with the fact that these students perceive their school experience as shaping their whole life, both at school and at home, as Usaini et al. (2015) point out. On the other hand, the less positive attitudes on the part of students in Dar es Salaam may be due to their attitudes that they are already sufficiently exposed to life in the city, meaning that they do not expect as much from their schools. As Usaini et al. (2015) explain, the complexity of life within cities may lead students to believe they learn as much within the city as they learn in schools, and they thus put less emphasis on what they learn in schools. One reason students in Dar es Salaam have a more positive attitude towards school than those in Mtwara may be that they feel their schools only help them to advance to the next level of education or obtain the required certificates for their future lives (Usaini et al., 2015).

6.1.8 Student engagement with schooling in the context of EEO

The present study aimed to investigate student engagement with schooling in the context of EEO principles. The reason for this was that student engagement is one of the major ways of making students participate effectively in their whole experience of schooling, which in turn reduces the negative influences of risk factors associated with less than full participation in educational opportunities. Student engagement can be said to enhance one of the factors of EEO, namely equality of educational participation.

Students' engagement levels in the context of EEO

Students in the present study were found to score highly on five out of seven constructs of student engagement relating to perceptions and attitudes, which shows high general engagement in the educational opportunities provided. This also shows that there was a high level of equality of educational participation among the students. On the other hand, since students' engagement levels in the specified engagement dimensions were shown as being moderate to very high, and since students did not demonstrate low levels of engagement in any of the three dimensions (emotional, behavioural and cognitive), it can be argued that the educational opportunities provided to them in the form of services, facilities and resources were well exploited by the students under study. Moreover, the schools seem to be effective providers of education and this encourages students to take advantage of the educational opportunities on offer.

Differences between students' characteristics in the context of EEO

The prevalence trend in the present study for female students to be more engaged than male students in some areas indicates the differences in the ways female students were exploiting some of the educational opportunities provided to them compared with male students, despite the fact that both genders were equally exposed to all such opportunities. Female students seemed to take greater advantage of the educational opportunities on offer: they perceived the support they got from schools and from teachers more positively than male students, and they also have a greater sense of belonging to their schools than their male counterparts.

The occurrence of different levels of student engagement across student age groups and class levels is indicative of the fact that individual students' maturity influences how they exploit the educational opportunities they are provided with. Students aged 15 and below take a different approach to exploiting the educational opportunities provided from students in other age groups. In addition, students in form one exploit educational opportunities differently from students in forms three and four. However, the

differences in exploitation in some areas of engagement constructs are the same as have been found for gender.

Differences between schools and zones in the context of EEO

Though the level of student engagement is moderate to high in all three engagement dimensions for both NSS and SSAL students, behavioural engagement for students in NSS is different from that for students in SSAL. A comparison of the differences between students in the two categories of school in the light of equality of educational participation shows that students in the two categories take a different approach to the educational opportunities presented to them. This is illustrated by the manner in which students participate in different school and classroom activities, shown by the extent of their behavioural engagement.

Students in the districts of the Dar es Salaam region (Ilala and Temeke) and in the districts of Mtwara region (Mtwara and Tandahimba) engage differently in most of the engagement constructs studied, and their exploitation of the educational opportunities presented to them differs from one district to another. The same is true when the two regions are compared without considering the districts within them. In spite of this, students in districts of the Mtwara region seemed to be exploiting the educational opportunities with which they were presented better than students in the districts of the Dar es Salaam region; students in districts of the Mtwara region were found to be more highly engaged in most of the engagement constructs under study than students in districts of the Dar es Salaam region. This suggests that students in districts of the Mtwara region are in a better position to exploit the educational opportunities presented to them than students in districts of the Dar es Salaam region. The reason for this may be that there are relatively low numbers of students in districts of the Mtwara region compared with students in the districts of the Dar es Salaam region. Moreover, students in districts of the Mtwara region have fewer interferences from the outside community and its associated activities as they study in comparison with students in districts of the Dar es Salaam region, because the Dar es Salaam region is a big and busy commercial city, while Mtwara is a small municipal town with few activities. Such interference may prevent students from exploiting the educational opportunities with which they are presented and manifest as low engagement compared with students in districts of the Mtwara region.

6.2 General interpretation of the findings

Based on the high level of engagement that has been observed for students in relation to many of the constructs, and also on the moderate to high level of engagement in the three specified dimensions, the present study suggests that the students under study were exploiting the opportunities they were presented with. Notwithstanding students' low level of engagement in a few constructs relating to the perception of school libraries and laboratories and classroom makeup, this indicates that educational provision goes hand in hand with the enhancement of the equality of educational participation. Low levels of student engagement with these facilities and resources could be due either to poor quality facilities and resources or inappropriateness or absence of materials and equipment in such facilities.

While the present study demonstrated, in line with current literature (Finn, 1989; Veiga, 2016), that female students were more engaged than male students as regards their feelings towards their schools and their perceptions of the support provided by schools and teachers, such differences have not been observed on other subscales under study, in line with the hypothesis that there was no significant difference between the means of male students and the means of female students in relation to engagement with schooling. The study showed similar perceptions on the part both of female and male students of the influence of the library and laboratories on their studies, classroom makeup, and examinations and academic achievement. Female and male students also shared attitudes to the subjects they were studying. This indicates that gender was not a significant predictor of student engagement on the subscales where differences were not found, and implies that the exploitation of educational opportunities presented to students on those subscales was not influenced by the gender of the students in question.

Although students aged 15 and below were found to exhibit lower levels of engagement on some subscales than other age groups (due mainly to their being at the peak of adolescence), as was hypothesized there was no significant difference between the age group means for student engagement with schooling. The study showed that students of all age groups had similar perceptions of the support they got from their schools and teachers, the influence of classroom makeup, and examinations and academic achievement. It also showed that students of all age groups had similar attitudes towards the subjects they were studying. This implies that students of all age groups take equal advantage of the educational opportunities presented to them on the subscales that were not found significant, and that age group is not a significant predictor of student engagement on those subscales.

Notwithstanding the prevalence of differences between class levels from one and other forms in relation to some subscales, due mainly to the level of difficulty in the subjects studied in each form, as hypothesized differences between class levels were not observed in some subscales. This was due to the fact that students at all three levels demonstrated similar perceptions of the support they received from their schools and teachers, of the examinations they took and of academic achievement. Students also showed similar attitudes towards the subjects they were studying. This implies that students across all class levels take equal advantage of the educational opportunities they are presented with on subscales where significance was not identified, and that class level was not found to be a significant predictor of student engagement on those subscales.

Despite the finding that students in NSS had higher behavioural engagement dimension levels than students in SSAL, on the grounds amongst others that interaction within groups reduces prejudice, students in both categories of school displayed similar levels of cognitive and emotional engagement. Students in both NSS and SSAL demonstrated high levels of cognitive and emotional engagement; levels of behavioural engagement were lower, with students in NSS having higher levels of behavioural engagement than those in SSAL. This implies that both types of school (NSS and SSAL) were able to offset individual differences in the exploitation of educational opportunities by their students; students in both categories of school did not show low levels of engagement on any of the three engagement dimensions. The one exception was that the SSAL were less effective than NSS in offsetting educational disparities in relation to the behavioural engagement as regards the exploitation of educational opportunities. School categories is not a significant predictor of student engagement.

Besides the findings of differences between districts (which were also found between regions), on the ground among others that external interference played a different role in different regions and districts, the present study did not identify the hypothesized differences between districts on some subscales. Using one-way anova, the the study found that students had similar perceptions of their examinations and academic achievements, and similar attitudes towards the subjects they were studying. Independent t-testing also found students to have similar perceptions of school library and laboratories, classroom makeup and similar attitudes towards subjects. This implies that students in all districts within the regions concerned took equal advantage of educational opportunities in relation to the subscales where significance was not found. However, because students in the districts show differences in many subscales measured under the study,

therefore, the school environment is a significant predictor of student engagement. Among school environmental factors, teachers' support was found to be the leading factor.

Apart from the fact that the school environment predicts more the student engagement and thus makes students take greater advantage of the educational opportunities they are being presented with, it was revealed from the analysis of each subscale that the students do not always exploit the educational opportunities for obtaining better academic performance measured from their school or national examinations. Sometimes when students exploit their educational opportunities they may end up either changing their attitudes toward those desirable by their schools and societies or, obtaining varieties of functional skills which improve their livelihood and communities around them. This is always different from what many educational policies require through Equality of Educational Participation, that is, the good achievement of the students in their academic examinations. This clearly shows that students may engage highly with their schooling to build within them different capabilities, not only their intellectual abilities.

6.3 Implications for Educational Research, Practice and Policy

6.3.1 Research implications

It is important to remember that the questionnaire used in this research was adapted to suit the purpose of the research. It was therefore better suited to the study of student engagement in Tanzanian secondary school students than instruments used for various purposes at other times, such as the High School Survey of Student Engagement (HSSSE) of Indiana University in Boomington (Yazzie-Mintz, 2007), the Australasian Survey of Student Engagement (AUSSE), the Irish Survey of Student Engagement (ISSE) and the PISA student questionnaires.

Studies have often reported that student engagement is mediated by a variety of factors relating to students and schools (e.g. Klem and Connell, 2004; Marks, 2000) and that student engagement is a robust predictor of a range of outcomes (e.g., Furrer and Skinner, 2003; Gonzalez and Padilla, 1997). Based on this logic, studies often assume that student engagement mediates the effects of those influencing factors on student outcomes. However, as has been shown in this study, this may not be true. Various individual student and school factors may significantly influence student engagement but student engagement is a non-significant predictor of the outcome of schooling. Thus, researchers need to explicitly test whether student engagement mediates school outcomes before testing for such outcomes.

Student engagement is a multidimensional construct consisting of emotional, behavioural and cognitive engagement. In literature, the definitions of these three dimensions and the distinctions between them are sometimes used by different authors to measure different aspects of education. The resulting confusion makes it hard to understand or compare results in respect of other aspects of education. The reliability of the measure in this research was high, and clear definitions were set out so as to eliminate ambiguities. However, the development of more clear definitions that could be applied to any future research would be beneficial.

It is also imperative that researchers study all dimensions of student engagement together rather than limiting their focus on only one or two dimensions. The influence of school and student characteristics on student engagement also differs in the various student engagement dimensions. Without examining all three dimensions together, it is impossible to understand the influence of one dimension on another. Thus, in

order to understand the whole picture of students' experience at school, it is necessary to examine all three student engagement dimensions together.

Consideration of student engagement is a promising approach to the understanding of EEO, but more studies using the framework are needed. While the existing literature on gender equality and the inclusion of marginalized groups such as students from remote areas and handicapped students provides plenty of evidence to support the validity of the framework, there is not enough research looking at student engagement as a means of better explaining the principle of EEO.

6.3.2 Implications for practice

Interventions in the field of education need to be more focused on student engagement. Many studies have reported significant relationships between student engagement and various student outcomes. Most of these studies found that low student engagement is a facilitator of poor academic achievement or eventual dropout. Despite these promising findings, current educational interventions often do not target or examine levels of student engagement, or differences in engagement levels between schools, categories of school, districts, regions, zones and the like. This may be due to a lack of interest in student engagement as well as difficulties in measuring student engagement. Although other areas of research receive more attention, understanding levels of student engagement and the differences in student engagement between different groups of students is an essential prerequisite for the design of measures to boost students' engagement, improve educational outcomes and create future citizens with better behaviour and attitudinal attributes that will ensure they achieve success in life. School officials, policy makers and others who design and implement interventions in schools need to pay more attention to student engagement as an outcome of the various educational factors that can effect changes in other target areas.

Educators who endorsed effective student participation in different learning programs have emphasized the importance for high scores on standardized tests of interventions such as strict discipline, learner centred approaches to teaching, supportive and caring relationships at school. However, as shown in this study, the incorporation of student engagement with schooling will not only promote more promising outcomes including high scores on standardized tests, but will generate positive attitudes in students and positive perceptions of their experience of schooling. The findings of the present study may provide useful

information to help educators and practitioners develop and implement effective interventions to promote student engagement and thus ensure students' future success.

Some schools suffer from inadequate libraries, laboratories and classrooms, and has been made clear by the present study, without a safe and orderly environment students cannot engage effectively with their schooling. Interventions to increase student engagement and secure a better future for students thus require the creation of better school climates and better learning environments. It is imperative that school staff, especially teachers, have high expectations in relation to all the students they teach. In this context, it is critical to avoid underestimating students' abilities and capabilities when providing education. Adequate training for teachers and other school staff may help them maintain high levels of student engagement and provide adequate support for all students regardless of their backgrounds.

Policymakers and practitioners should be responsive to the nature, category and location of schools. Schools should get different types of support in accordance with need, in order to elevate student engagement across the board. As such, policymakers and practitioners need to differentiate school practices and policy responses according to the nature and location of individual schools in order to enhance student engagement.

6.3.3 Policy implications

Recent policy interventions, such as Big Results Now (BRN) (Todd and Attfield, 2017), Education Programme for Results (EP4R) (Bester and Arnott, 2016) and Secondary Education Quality Improvement Project (SEQUIP) (URT, 2020b) have led to educational reforms that focus primarily on tests and academic achievement, and this has raised serious concerns for educators. Schools cannot offer a balance of challenge and responsiveness when they are pressurized by a system of accountability that focus solely on scores in standardized tests. Focusing primarily on test scores may indeed raise scores for students, but using this or any single indicator to define the success of students and school may generate unintended longer-term negative consequences. Such a policy could, for example, decrease students' emotional engagement. More importantly, it could sabotage a key goal of education, namely the creation of lifelong learners who can adjust to the changing needs of society and the workplace (Sheldon and Biddle, 1998). Future educational policy therefore needs to be developed in a way that will enhance emotional and behavioural engagement with schooling, rather than focusing solely on cognitive engagement.

Improving test scores, as so heavily emphasized in BRN, is important; however, test scores may not be a sufficiently accurate measurement of schools' broader performance. The emotional and behavioural development of students is as important as their cognitive development, and in fact influences their learning. Therefore, it is necessary to develop better ways of establishing school accountability using multiple measures to capture all the relevant areas of student development. Such measures should cover a broad spectrum of student engagement: emotional, behavioural and cognitive engagement. With this more comprehensive system, schools may be able to provide more balanced learning for students, and as a result promote their healthy and balanced development.

An alternative system of intervention that would measure a broad spectrum of student development in a diverse student population would be to accommodate diversity by removing any inequality in educational provision. It is important to ensure that all schools, whether of NSS or SSAL, are equally well funded and supported. The uneven distribution of resources among schools of different categories will result in inequality of educational participation, which will eventually lead to inequality in educational outcomes. Addressing inequality of educational access and inequality of educational participation should be a primary concern of policies aimed at increasing student engagement with schooling.

6.4 Limitations

Students' questionnaires were prepared by the researcher and translated into Swahili, a language that was easily understood by the students. There could therefore be some limitations resulting from the translation if meaning were changed. However, the researcher sought the views of experts and authorities, who helped with proofreading and moderating the items included in the questionnaires. In addition, participants' responses were self-reported, and it was assumed that responses were honest. The questionnaire did not provide the option for participants to write their own explanations of their answers.

The operationalization of student engagement in this study may be a concern. Operationalization of each dimension of engagement corresponded to its definition. Different definitions and/or operationalization may provide different results from those found in this study. For example, a study of behavioral engagement focusing on attendance or extracurricular activities might have obtained different results.

However, the operationalization of student engagement used in this study was supported by the existing literature.

This study focused on the effect of student and school characteristics rather than other characteristics such as family and community characteristics (Craig et al., 2009). Nonetheless, the influence of students' families and community should not be ignored (Henderson and Berla, 1994; Henderson and Mapp, 2002; Lee and Bowen, 2006). Considering the scarcity of literature regarding the framework of school contextual variables and the influence of students' individual characteristics on student engagement, however, this study provides unique information contributing to research and practice. In the future, it would also be worthwhile to examine the influence of family and and community characteristics together.

The inability to control for other aspects of student engagement such as peer influence or time spent on study was another limitation of this study. It is known that other aspects of student engagement influence the level of student engagement and differences in engagement levels. When the levels of engagement and differences between them are examined in future, it may be desirable to include as many aspects as possible. Secondary school students are influenced by a variety of factors that can determine the different levels of their engagement with schooling. Without including enough aspects of student engagement, it may be hard to improve understanding of the effect of individual student characteristics and school contextual variables on the levels of student engagement with schooling.

Another issue is the effect of the current school environment, which can appear or increase as students spend more time in their current school. Because this study used a cross-sectional dataset it was not possible to control for previous engagement or to show any change in engagement over time. Despite the limitations of cross-sectional data, the questionnaire data was a good fit for the present study because it included variables to create the constructs of attitudes and perceptions and the three dimensions of student engagement (i.e., behavioral, emotional, and cognitive). Nonetheless, future studies on the basis of longitudinal data are needed.

6.5 Summary of the Study

The purpose of this study was to investigate student engagement with schooling using individual student characteristics and school contextual variables, in order to provide a better understanding of the complex realities experienced by students and explaining the state of EEO among students. The study examined the

engagement of 1031 students from forms two, three and four using independent t testing and one-way anova testing. However, the study also used percentages and cross-tabulations to determine the level of, and differences between, students' engagement. The findings of this study showed a high level of engagement among all participating students. Furthermore, the study found that all hypotheses formulated to test different assumptions of the study were partially supported because not all the subscales within them were found to be statistically significant. The study found that there was a difference between the engagement of female and male students in some subscales, with female students being more engaged with their schooling than male students. The study also found that the 15 and below age group engaged differently from the 16, 17 and 18 and above age groups on some subscales, and that form one engaged differently from the forms three and four on some subscales. The study also found that students in districts of the Mtwara region engaged differently from students in districts of the Dar es Salaam region on some subscales. Moreover, on determining differences in engagement dimension levels for students in NSS and students in SSAL, the study found that the students in both categories of school showed high emotional and cognitive engagement levels. Behavioural engagement dimension levels were moderately lower, with NSS students showing higher engagement than SSAL students.

When these findings were used to determine EEO, the study found that the high level of student engagement in relation to perceptions and attitudes indicated that students were taking better advantage of all the educational opportunities presented to them. The way in which students exploited opportunities differed when students were sorted into different groups. This led to the conclusion that female students exploited the educational opportunities presented to them more than male students, and students aged 16, 17 and 18 and above exploited the educational opportunities presented to them more than students aged 15. Students in form two exploited the educational opportunities presented to them more than students in forms three and four, and students in districts of the Mtwara region exploited educational opportunities more than students in the Dar es Salaam region. Finally, NSS students exploited the educational opportunities presented to them more than the SSAL students.

6.7 Conclusions

Expanding access to and improving provision of secondary school education, as has been the aim since the expansion of secondary education in 2004, have not been sufficient to ensure students' full participation in secondary education. The challenges relating to the eventual outcomes of the educational processes have continued to arise, including decreased acquisition of the requisite competences and skills among learners

at all levels of secondary education (URT, 2008; URT, 2011), socially unacceptable behaviours among secondary school graduates at O-level and other levels and the inability of many secondary school graduates to undertake economic and cultural activity (*ibid*).

This study therefore found that it is important to consider student engagement in order to understand how students participate in education, because this is what underlies the varied nature of students' experience of schooling. This study uses diverse constructs of student engagement in order to determine how individual characteristics and school contextual variables impact on students' engagement with their schooling and provide a clear picture of how students participate in their studies. The study also develops its analysis of student engagement by applying one factor of EEO, namely equality of educational participation.

Student engagement with schooling was found to be high enough across the whole group of students to indicate that all the students in this study were making good use of the educational opportunities presented to them. However, further analysis disclosed differences between groups of students and between locations. Thus when student engagement was assessed according to locations, i.e districts and regions, students who were located far from each other exhibited greater differences in their engagement with schooling than students who were located closer to each other. However, distinctions between different schools was not revealed until the schools were categorized as either NSS or SSAL, at which point NSS students were found to be more behaviourally engaged than SSAL students.

Considering age levels and class levels together, the study considered the student engagement in terms of whether students were engaging with their whole school experiences or only with their classroom experiences. Students in younger age groups engaged less with their schooling than students in older age groups, while students in lower classes engaged more with their schooling than students in higher classes. Students in younger age groups were strongly affected by the whole of their school experience, which did not fit well with their developmental stage as adolescents. The engagement of students in lower classes with their schooling was more positive because the content studied in lower classes was not complex compared with the content studied in higher classes. The study identified no further explanation for the greater engagement of female students than male students, except generalizations that considered female students to be more engaged than male students.

Notwithstanding the above, the greatest differences in student engagement were generally observed when students were interacting with their whole school experiences, with educational facilities and resources

including teachers, and with examinations and academic achievement; differences were far smaller in relation to the subjects being studied. This implies that school and classroom climates have the greatest influence on student engagement and thus may impact the ways in which students exploit the educational opportunities presented to them. Specific subjects were not found to influence students.

Studying student engagement on the basis of a multiplicity of factors therefore offers a clear guide to understanding the complex realities experienced by students during their schooling, and will also provide greater understanding of students' readiness to exploit the educational opportunities presented to them. It may even lead to better understanding of where the emphasis should be placed when regulating the provision of secondary education.

6.8 Recommendations

6.8.1 Policy Recommendations

There is a need to address the challenges in the provision of secondary education, including the shortage of infrastructure and other educational equipment.

School curricula should be designed so as to allow teachers flexibility to engage all learners fully in study activities.

6.8.2 Recommendations for practice

Teachers should be trained in student engagement and how they can affect individual student characteristics. Teacher training programs should thus look at the various aspects and topics related to student engagement so as to ensure teachers have knowledge of how to engage students before they have contact with students.

Teachers should establish a healthy and stable environment within their schools to enable students to enjoy the whole of their experience of schooling, which will encourage positive attitudes towards learning including readiness to participate in a range of extracurricular activities and in academic study.

The Tanzanian government, through the MoEST, should renovate infrastructure and provide adequate equipment in schools to enable students' experience of learning to be improved.

6.8.3 Recommendations for research

Future studies are recommended in order to expand upon the findings of this study; however, the onerous task of separating the effects of school factors from student characteristics, and avoiding threats to internal validity, will require a more sophisticated research design than a simple cross-sectional survey and analysis of primary data.

It is recommended that future studies utilize large-scale longitudinal approaches to track students' engagement with secondary school and other levels of education. These will be important in order to track changes in engagement among students and over time.

Further study is needed to explore whether the possible interaction between students' individual characteristics and/or school contextual variables, and the impact on student engagement.

It is also necessary to investigate other student factors such as peer relations, and other school contextual variables such as school size, to determine their effect on student engagement. In addition, it would be desirable to consider other factors such as the socio-economic status of families.

Finally, further qualitative studies are recommended in order to elicit more detailed explanation of the impact of student and school contextual factors on student engagement.

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APPENDIX A

Questionnaire provided to students (English and Swahili Version)

ENGLISH VERSION

 **STELLA MARIS MTWARA UNIVERSITY COLLEGE**
(A Constituent College of St. Augustine University of Tanzania)
Date:, July, 2016

To: Students ofSecondary school

Invitation to participate in the study on **Assessing Secondary School Student Engagement with Schooling in Coastal Tanzania. An empirical study investigating the principle of equality of educational opportunity (EEO):**

I would like to invite you to participate in a preliminary research study being carried out under the auspices of Stella Maris University College (STEMMUCO) in Tanzania and Vechta University in Germany in the context of a doctoral research project. The study aims to assess your attitude to schooling in the school you attend, and your performance in examinations. The results of this study will be used to improve the provision of secondary education from students' point of view, because it is students for whom educational objectives make a difference.

I would like to assure you that the information you provide will be used for academic purposes only and will be treated with the greatest confidentiality. You do not need to provide your name, and your identity will not be referenced in any context once the study is complete.

Your participation is very much appreciated and will allow us to focus on critical issues related to the challenges faced by students in obtaining their secondary education.

Thank you for taking part in this study

Maua Mpiza

Email: mauampiza@yahoo.com, mobile: +255 715 552930, +255 757 552930

The following **questionnaire** is part of the above-mentioned study. Please answer all questions and respond as truthfully as you can to the questions, to the best of your knowledge. There are no wrong answers: all answers will help enhance the study.

INSTRUCTIONS FOR COMPLETING THE STUDENTS QUESTIONNAIRE

Answer each of the following questions, by either writing in the blank fields or by ticking (✓) the box next to the answer that comes closest to the way you feel.

This first set of questions asks about your personal characteristics

1. How old are you? _____ years old¹

2. What is your gender? (a) Male 1
(b) Female 2

3. In which form are you?

(a) Form one 1
(b) Form two 2
(c) Form three 3
(d) Form four 4

This section asks you about your school

4. How do you feel about your school?

	Very much	Quite a lot	Moderate	Not much	Not at all
a. I like this school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. This school makes me happy	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. This school makes me enjoy learning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I feel lucky to be a student at this school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. I enjoy school activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. I wish I were a student of another school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. I would rather stay at home than attend this school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. I find other places to go instead of coming to this school.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. I don't like being at school for long time	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Being at school is a waste of time	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

5. How much do you think the school supports your studies

	Very much	Quite a lot	Moderate	Not much	Not at all
a. I learn many things at school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. I can learn new things quickly in school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. School has encouraged me to think for myself.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. School encourages me to be creative.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. The school's tight rules have encouraged me to study	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. School has helped me to get good grades in my subjects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Many academic activities at this school have boosted my desire to learn	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. School has too many activities that are not related to my studies	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. I never learn anything at school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Studying at this school is very complex	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

These questions ask about your learning environment at school and outside the school

6. How does your school infrastructure influence your studies?

	Very much	Quite a lot	Moderate	Not much	Not at all
a. The school laboratories have lots of materials (i.e equipments and chemicals) that increase my desire to learn	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. The school library has lots of materials (i.e. books, newsletters and texts) that make it easy for me to study	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. My school library motivates me to learn	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I enjoy being in my school laboratories	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. The medical facilities mean I do not worry if I am sick	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. My school is well fenced and secure, which means I am less worried while I am studying	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. The school has ready water supplies, which means my studies can proceed smoothly	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. I can study even during the evening because a reliable power supply is available.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. The inadequacy of study materials in my school library discourages me from learning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. If there were a good library I would read lots of books	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

7. How does the condition of your classroom influence your studies?

	Very much	Quite a lot	Moderate	Not much	Not at all
a. I enjoy being in the classroom where my lessons are conducted	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. The classroom is too small	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. The infrastructure in my classroom (i.e. floor, windows, doors) is not in good order and does not help me study	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. My classroom does not have adequate equipment (e.g. desks, chairs, book cabinet) to facilitate my understanding when learning	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Studying in my classroom is not enjoyable because most of the facilities are broken	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Our classroom blackboard is worn out and stops me concentrating on my teachers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. Our classroom notice board is in good order and facilitates communication with our teachers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

These questions ask about the structure of your learning at school

8. How do you view the subjects you are taught at school?

	Verymuch	Quite a lot	Moderate	Not much	Not at all
a. I like most of the subjects I am taught at school	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. I find easy to study most of my subjects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. I cannot participate well in many subjects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. Most of my subjects are too tough for me	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Most subjects are not taught well by the teachers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. I cannot get help when studying	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. I hate most subjects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. I like very few lessons among all the different subjects	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

9. What is the relationship between your studies and your academic performance?

	Very much	Quite a lot	Moderate	Not much	Not at all
a. My good academic achievement makes me study hard	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. Exams are a true measure of academic success	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. I can understand the school examination questions	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. I can understand the national examination Questions	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. I am well prepared for the national examinations	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. I am proud of my academic achievement	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

10. How much support do you get from teacher with your studies?

	Very much	Quite a lot	Moderate	Not much	Not at all
a. Teachers involve us well in study activities	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
b. My efforts in class are overlooked by my teachers	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
c. My teachers demand too much work from me.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
d. If my teachers demanded more, I would probably work harder.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
e. Teachers help me when I have problems with my studies	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
f. Teachers are fair to every student	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
g. It is easy for me to talk to my teachers about my study problems	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. My teachers work hard to help me do well in exams	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

SWAHILI VERSION

 **STELLA MARIS MTWARA UNIVERSITY COLLEGE**
(Chuo Kikuu Kishiriki cha Mtakatifu Augustino cha Tanzania)
Tarehe:,September, 2016

Kwa: Mwanafunzi wa shule ya sekondari.....

Ukaribisho wa kushiriki kwenye utafiti kuhusu **Kutathmini ushiriki wa wanafunzi wa shule za sekondari kwenye kusoma katika ukanda wa Kusini wa Pwani ya Tanzania. Utafiti wa kisayansi katika Nyanja ya usawa wa fursa za kielimu.**

Ninapenda kukuaribisha kushiriki kwenye utafiti huu wa awali ambao unafanyika chini ya Chuo Kikuu Kishiriki cha Stella Maris (STEMMUCO) cha Tanzania na Chuo Kikuu cha Vechta cha Ujerumani ili kukamilisha mahitaji ya masomo ya Uzamivu. Utafiti huu unakusudia kutathmini mtazamo wako wa jinsi ya kusoma ukilinganisha na shule unayosoma na matokeo ya mitihani yako. Matokeo ya utafiti huu yanategemewa kuboresha utoaji wa elimu ya sekondari kupitia mtazamo wa wanafunzi, kwa sababu wanafunzi ndio ambao kupitia wao madhumuni ya elimu ya sekondari yanakamilishwa.

Nakuhakikishia kuwa taarifa unazotoa zitatumika kwa madhumuni ya kitaaluma tu na si vinginevyo, na zitatumika kwa usiri wa hali ya juu. Kwa hiyo hauhitajiki kujulisha jina lako, wala utambulisho wako hautatajwa mahali popote baada ya utafiti huu.

Ushiriki wako unathaminika sana na utasaidia kulenga zaidi katika mambo muhimu yanayohusiana na changamoto zinazowapata wanafunzi katika kupata elimu yao ya sekondari.

Nashukuru kwa kunielewa

Maua Mpiza

Barua pepe: muampiza@yahoo.com, simu ya kiganjani: +255 715 552930, +255 757 552930

Dodoso lifuatalo ni sehemu ya utafiti uliotajwa hapo juu. Tafadhali jibu maswali yote. Hakuna jibu ambalo si sahihi, kwa sababu majibu ya aina yoyote yanasaidia katika kukamilisha utafiti huu. Pia nakuomba tafadhali uwe mkweli katika kujibu maswali, na uwe huru kujibu kwa uelewa wako wote.

MAELEKEZO YA JINSI YA KUJIBU DODOSO LA WANAFUNZI

Jibu kila seti ya maswali, kwa au kujaza jibu sahihi katika sehemu zilizoachwa wazi, au kwa kuweka tiki (✓) jibu ambalo liko karibu na jinsi unavyojisikia au unavyoelewa katika viboksi ulivyopewa.

Hii seti ya kwanza ya maswali inakuuliza kuhusu sifa zako binafsi

11. Una umri gani? Miaka _____ 1

12. Wewe ni jinsia gani? (a) mwanaume 1

(b) mwanamke 2

13. Uko kidato cha ngapi? (a) Cha kwanza 1
(b) Cha pili 2
(c) Cha tatu 3
(d) Cha nne 4

Hii seti ya pili ya maswali inakuuliza kuhusu shule unayosoma

14. Unajisikiaje kuhusu shule unayosoma?

	Sana kabisa	Sana	Wastani	kidogo	Hapana
k. Naipenda hii shule	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Hii shule inanifanya niwe na furaha	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. Hii shule inanifanya nifurahie kujifunza	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. Nina bahati kuwa mwanafunzi wa shule hii	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
o. Nafurahia shughuli mbalimbali za Shuleni	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. Natamani ningekuwa mwanafunzi wa shule nyingine	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
q. Afadhali kubaki nyumbani kuliko kuhudhuria masomo katika shule hii	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
r. Huwa natafuta sehemu zingine za kwenda badala ya kwenda shuleni	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
s. Sipendelei kuwepo shuleni kwa muda mrefu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
t. Kuwepo shuleni ni kupoteza muda	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

15. Kwa kiasi gani unafikiri shule inakusaidia katika masomo yako?

	Sana kabisa	sana	Wastani	Kidogo	Hapana
k. Ninajifunza mambo mengi nikiwa shuleni	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Ninaweza kujifunza mambo mapya haraka	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

- | | | | | | |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| nikiwa shuleni | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| m. Shule imenihamasisha kujifikiria mwenyewe | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| n. Shule imenihamasisha kuwa mbunifu | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| o. Sheria madhubuti za shule zimenihamasisha Kusoma | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| p. Shule inanisaidia kupata alama nzuri kwenye masomo yangu | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| q. Shughuli mbalimbali za kimasomo shuleni zimeniongezea hamu ya kusoma | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| r. Shule ina shughuli nyingi ambazo hazihusiani na masomo yangu. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| s. Sijifunzi chochote nikiwa shuleni | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| t. Kusoma katika shule hii ni kugumu kwangu | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

Hii seti ya tatu ya maswali inakuuliza kuhusu mazingira yako ya kusoma ukiwa shuleni na ukiwa nje ya shule

16. Jinsi gani miundombinu ya shule yako inavyoshawishi wewe kusoma?

- | | Sana kabisa | sana | Wastani | Kidogo | Hapana |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| k. Maabara za shule yangu zina vifaa vingi vinavyohitajika (kama vile. vifaa vya maabara na kemikali) ambavyo huniongezea hamu ya kujifunza | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| l. Maktaba ya shule ina vifaa mbalimbali vya kujisomea (kama vile vitabu, majarida, matini) vinavyonifanya nisome kwa starehe | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| m. Maktaba ya shule inanihamasisha mimi Kujifunza | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| n. Ninafurahia nikiwa katika maabara ya shuleni | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| o. Vifaa vya matibabu vinanifanya nisiwe na wasiwasi afya yangu inapokuwa si nzuri. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| p. Shule yangu ina uzio madhubuti Inaopunguza wasiwasi nikiwa nasoma | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| q. Shule haina tatizo la maji hivyo masomo Yangu yanaendelea bila shida | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| r. Ninaweza kusoma hata wakati wa usiku kwa sababu kuna umeme wa kuaminika. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| s. Upungufu wa vifaa vya kujifunzia katika maabara ya shule yangu unanikatisha tamaa ya kujifunza. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |
| t. Kungekuwa na maktaba nzuri | | | | | |

kungeniwezesha kusoma vitabu vingi 1 2 3 4 5

17. Jinsi gani hali ya darasa unalosomea linavyoshawishi kusoma kwako?

	Sana kabisa	sana	Wastani	Kidogo	Hapana
h. Ninafurahia kuwa katika darasa ambalo nafundishiwa masomo yangu	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Darasa ni dogo sana kwetu sisi wanafunzi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Miundombinu ya darasa (kama vile sakafu, madirisha, milango) haiko katika hali nzuri kunifanya nisome kwa faraja.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Darasa langu linakosa vifaa vya kutosha (kama vile madawati, viti, kabati za vitabu) Ili kurahisisha uelewa wangu wakati wa Kujifunza	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Kusoma ndani ya darasa langu sio kwa kufurahisha sababu vifaa vyake vingi(kama vile madawati, viti, kabati za vitabu) vimeharibika	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. Kuchakaa kwa ubao wa darasa kunaharibu umakini wangu katika kuwasikiliza walimu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. Ubao wa matangazo wa darasa letu hauko vizuri kuwezesha mawasiliano na walimu wetu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

Hii seti ya nne ya maswali inakuuliza kuhusu mfumo wako wa kujisomea ukiwa shuleni

18. Una mtazamo gani kuhusu masomo unayofundishwa shuleni?

	Sana kabisa	sana	Wastani	Kidogo	Hapana
i. Ninayapenda masomo mengi ambayo tunayofundishwa shuleni.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Ninasoma kwa urahisi masomo yangu mengi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Siwezi kushiriki vizuri katika masomo mengi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Masomo mengi ni magumu sana kwangu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. Masomo ngengi hayafundishwi kwa uhakika na walimu	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. Huwa nashindwa kupata msaada katika kusoma masomo	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
o. Nachukia masomo mengi	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. Ninapenda masomo machache sana kati ya mengi tunayofundishwa.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

19. Unahusianisha vipi masomo yako na ufaulu wako katika masomo?

	Sana kabisa	sana	Wastani	Kidogo	Hapana
g. Ufaulu wangu mzuri unanifanya niwe nasoma sana	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
h. Mitihani inapima kweli uelewa wangu darasani	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
i. Maswali ya mitihani ya shuleni inaeleweka	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Maswali ya mitihani ya taifa inaeleweka	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Nimejiandaa vizuri kufanya mitihani ya taifa	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Najionea fahari ufaulu wangu	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

20. Kwa kiasi gani unapata msaada wa walimu kwenye masomo yako?

	Sana kabisa	sana	Wastani	Kidogo	Hapana
i. Walimu wananishirikisha vizuri katika shughuli mbalimbali za kusoma.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
j. Juhudi zangu darasani hazizingatiwi na walimu wangu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
k. Walimu wangu wanahitaji kazi nyingi za kujifunza kutoka kwangu.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
l. Kama walimu wangehitaji zaidi kwangu katika masomo pengine ningefanya bidii.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
m. Walimu huwa wananisaidia nikipata shida katika masomo	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
n. Walimu wanatenda haki kwa kila mwanafunzi.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
o. Ninaweza kuongea kwa urahisi na walimu wangu kuhusu shida za kimasomo.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
p. Walimu wanafnaya juhudi ili kuniwezesha nifanye vizuri katika mitihani	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

APPENDIX B

Descriptive Statistics, KMO, Bartlett's Test and Scree plot of the factors produced

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
I like this school	4.10	.934	815
This school makes me happy	3.84	.993	815
This school makes me enjoy learning	4.09	.975	815
I feel lucky to be a student at this school	4.08	1.073	815
I wish I were a student of another school	2.36	1.572	815
I learn many things at school	4.59	.691	815
I can learn new things quickly at school	4.42	.821	815
School has encouraged me to think for myself	4.43	.877	815
School encourages me to be creative	4.12	1.143	815

The school's tight rules have encouraged me to study	4.24	1.048	815
School has helped me to get good grades in my studies	4.16	1.001	815
Many activities at this school have boosted my desire to learn	4.03	1.146	815
The school laboratories have lots of materials (i.e. equipment and chemicals)	2.95	1.412	815
The school library has lots of materials (such as books, newsletters and other texts)	2.76	1.474	815

My school library motivates me to learn	2.93	1.549	815
I enjoy being in my school laboratories	3.37	1.433	815
The infrastructure in my classrooms (i.e. floor, windows, doors) is not in good order and does not help me study	2.87	1.576	815
My classroom does not have enough equipment (i.e. desks, chairs, bookcabinet)	2.93	1.568	815
Studying in my classroom is not enjoyable because most of the equipment is broken	2.45	1.555	815
Our classroom blackboard is worn out and prevents me concentrating on my teachers	2.05	1.409	815
Our classroom noticeboard is not in good order and does not facilitate communication with our teachers	3.15	1.669	815
I cannot participate well in many subjects	2.16	1.283	815
Most subjects are too tough for me	2.12	1.185	815
I hate most subjects	1.36	.906	815
I like very few lessons among all the different subjects	2.06	1.429	815
My good academic achievement make me study hard	4.51	.802	815
Exams are a true measure of my academic success	4.65	.714	815
I can understand school examination questions	4.25	.936	815
I can understand national examination questions	4.05	1.054	815
I am well prepared for national examinations	4.29	.932	815
I am proud of my academic achievement	4.07	1.139	815

Teachers involve us well in study activities	3.92	1.137	815
My efforts in class are overlooked by my teachers	2.10	1.293	815
Teachers help me when I have problems with my studies	3.85	1.177	815
Teachers are fair to every student	3.25	1.487	815
I find it easy to talk to my teachers about my study problems	3.53	1.303	815
My teachers work hard to help me do well in my exams	3.98	1.132	815

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.906
Bartlett's Test of Sphericity	Approx. Chi-Square	11549.269
	df	666
	Sig.	.000

