INFLUENCE OF SELECTED TEACHER DEMOGRAPHIC CHARACTERISTICS ON DIVERSITY MANAGEMENT IN TEACHING OF AGRICULTURE IN SECONDARY SCHOOLS IN HOMABAY COUNTY, KENYA

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A Thesis Submitted to the Graduate School in Partial Fulfilment of the Requirements for the Degree of Master of Science in Agriculture Education of Egerton University

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DECLARATION AND RECOMMENDATION

Declaration

I hereby declare that this thesis is my original work and has not been submitted for the Conferment of a degree or diploma, in this or any other university.

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Recommendation

This thesis has been submitted for examination with our approval as university supervisors.

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DEDICATION

To my wife Eunice Akinyi, children Shanelle, Petty, Eddy and my mother Tewdora Adhiambo whose encouragement and support continue to amaze me.

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ABSTRACT

With gradual recognition of diversity among learners by teachers and school administrators' world over; diversity in education remains key in managing learners. Although policy guidelines on elimination of discrimination in schools are available, implementation of diversity management in practically oriented subjects across Africa and particularly in Kenya is not well researched and documented. The purpose of this study was to examine how selected demographic characteristics of teachers of Agriculture influence their ability to effectively manage diversity among learners in their classes. The objectives of the study were to find out the influence of the gender, level of training of teachers, years of teaching experience and age of teachers of Agriculture on their classroom diversity management in secondary schools in Homa Bay County. The study was modelled after Social Learning Theory as proposed by Lev Vygotsky (Lev Vygotsky, (1978). The theory is effective in diversity management in the classroom as the teachers have to identify the Zone of Proximal Development (ZPD) of each of their students and execute effective teaching strategies and intervention measures that would effectively meet the unique needs of each student during the Agriculture lessons. The study had a target population of 2190 of which a sample of 486 respondents was involved in the study. Questionnaires were used as main tool of collecting data. A Lesson observation schedule was used to do classroom observations. Face and content validity of the research instruments were ascertained by my supervisors from Egerton University. Both teachers and students' questionnaires were also piloted for reliability and yielded an acceptable Cronbach's coefficient Alpha of 0.79. Data was analysed using descriptive as well as inferential statistics. The findings of this study indicate that there is a statistically significant difference in influence of gender of teachers as it is evident that there was statistically significant difference in scores for males (mean =2.788, SD=.586) and females [mean=3.104, SD=.525; t (87) = -2.636, p=.010<.05], and statistically significant F [(2, 86) = 10.188, p=.000 <.05, difference in influence in classroom diversity management with different levels of training amongst teachers of agriculture in secondary schools in Homa Bay County. However, it was also established that differences exist on how teachers of Agriculture support diversity in their classroom in the terms of years of teaching experience supported by F (3, 85) = .620, p=.604 >.05) and F (2, 86) = .764, p=.469>.05, these variables do not significantly influence their diversity management skills. It was concluded that there is no statistically significant difference in classroom diversity management among teachers of Agriculture with different levels of teaching experience and age respectively in secondary schools in Homa Bay County. These findings may be of significance to the Quality Assurance and Standards Department of the Ministry of Education and other stakeholders in education as it will provide empirical evidence on how teachers, who are diverse themselves, handle diversity within their classrooms. This information may be useful in executing stopgap measures aimed at ensuring inclusivity in the teaching of agriculture in secondary schools.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immuno-Deficiency Syndrome
CWSN	Children with Special Needs
HIV	Human Immune Virus
KNEC	Kenya National Examinations Council
MCP	More Capable Peer
NACOSTI	National Commission for Science, Technology and Innovation
SEN	Special Educational Needs
SET	Student Evaluation of Teachers
SNE	Special Needs Education
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America
ZPD	Zone of Proximal Development

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Education across the world is intended to prepare children in different ways for the positions they are expected to occupy in social, economic, and political life. According to LaVergne, Elbert and Jones (2011), there has been a substantial theoretical and practical shift of emphasis, mostly in mainstream education, towards acknowledging that teachers are among the principal components of any pedagogical program. In the last decade, research base increasingly showed that teachers are among the most important players influencing student achievement, holding the key to sealing the gaps in students' achievement outcomes (Kantrovich, 2007; Kewal *et al*., 2007; Planty *et al*., 2009).

Teachers roles in impacting positively on students learning has been impeded by inability to manage learner's diversity given that their varied characteristics such as age, gender and level of teaching experience. Rubis-Davies (2011) posited in his study of teachers age and diversity in Pakistan, that age was an insignificant factor in learners' diversity management. Similarly, a survey on teacher characteristic especially teaching experience indicated that teachers with fewer years of teaching tend to be supportive to learner with diversity than long serving teachers (Alvamidis *et al*., 2000).

Diversity in education encompasses students from different races, gender, and socioeconomic backgrounds, students who speak different languages, different learning abilities and students from different cultures (Baff, 2011). Diversity management, thus, is the act of acknowledging these differences and, in turn, fostering an atmosphere to teach every student in the classroom effectively. According to Talbert and Edwin (2008), diversity is one of the most "significant social aspects" in the United States because of the rapid change in demographics which make secondary agriculture education programs to attract students from non-traditional backgrounds." Vommi (2012) studied the perceptions and needs of agriculture teachers on classroom diversity and inclusion. The findings of the study indicated that agriculture teachers understood the concept of classroom diversity. They felt confident teaching racially, culturally, and linguistically diverse students and students with disabilities.

Adequately defining the teachers' perceptions about students has been at the core of research and controversy. According to Baff (2011), the term "teacher characteristics" typically refers

to qualities of teachers that can be measured with tests or derived from their academic or professional records. In the current world, teacher quality is treated as a crucial factor in the educational process and students' educational achievement (Whiting & Young, 2012).

As such, broad reviews research on the effects of teachers' training (duration and specialization), pedagogical approaches towards teaching, teacher experience, attitude towards learners and teachers' advanced professional training has been conducted. Whiting and Young (2012) further contend that the demographic disposition of teachers has a significant influence on how they handle learners within and outside their classrooms.

Research on diversity in the classroom has mainly been carried out in the United States of America (USA). A surveys from the USA have shown that both white and minority students in integrated school districts tend to report that they have learned to study and work together, developing confidence and skills to work in such settings (Gurin, 2012). Teacher quality and ability has been a subject of research in various countries. For instance, in India, studies by Aaronson, Barrow and Sander (2013); Rivkin and Hanushek (2005) and Rockoff (2004) found that teacher quality is reasonably stable over time. The studies are in agreement that students taught by 'high quality' teachers, in terms of level of education, training and experience, have significantly higher achievement. However, the studies show little variation in teacher quality and ability to meet the unique needs of their students.

In the case of historically black schools in South Africa, too, the role of the teacher has been found to be vital in the achievement of educational outcomes. For example, Coonen (1987) established that teachers involved in in-service training were more effective in classrooms in terms of accommodating learners from diverse backgrounds, as compared to teachers who had not undergone training. Additionally, Thias and Carnory (1972) in a review of South African education system observed that teacher experience had significant effect on student performance, irrespective of their backgrounds. The studies show that teachers' characteristics are strong determinants of students' performance in secondary schools.

Conflicts in schools over fees, religion, customs, disabilities and/or special needs or language are frequently displayed in Kenyan media (Odhiambo, 2013). These reflect the multifaceted issue of learner diversity, encompassing class, gender, religious, linguistic, physical and other differences.

Media reports have also highlighted incidents in schools where tribal and gender tension as well as discriminatory practices against learners with special needs and/or disabilities has been rife. The need to deal with and manage such issues therefore poses many challenges for schools and teachers.

Odhiambo (2013) further contends that there is a growing concern on the ability of teachers to effectively meet the unique needs of learners' diversity in terms of gender, special learning, agricultural backgrounds, socio-economic backgrounds and academic potentials. For diversity management to be effective, there ought to be some form of control systems for monitoring and evaluating teachers (Abdullahi, Mlozi & Nzalayaimisi, 2015; Waithera, 2013; Ochann, 2012). Thus, countries and education systems have often fronted specific feedback mechanisms on teaching effectiveness, with specified reporting criteria.

Homa Bay County is largely dominated by the Luo tribe with more or less similar cultural practices. However, in the secondary schools, there exists diversity in the region in terms of gender, socio-economic status of the learners, academic abilities and attitude towards specific subject areas (Nyakado, 2013). Currently, there is limited empirical research on influence of teacher demographic characteristics on diversity management in teaching of agriculture in secondary schools, in Homa Bay County. Thus, the present study analysed the influence of selected demographic characteristics of teachers of agriculture on diversity management amongst students in secondary schools in Homa Bay County, Kenya.

1.2 Statement of the Problem

Agriculture is one of the optional subjects that students have free will to choose irrespective of their diversity and teachers of Agriculture should use their own individual differences characteristics of age, teaching experience, level of training and gender amongst others to assist students with diversity overcome their difficulties in the subject.

Teachers of Agriculture in secondary schools are aware of the existence of diversity among learners in their classes, but appear to be deficient of knowledge on how to manage such diversity among the learners adequately. Their inability in diversity management may eventually make students to dampen their career aspirations. Although a number of studies have been conducted in Kenya on factors that affect learner's diversity management among teachers, much of this research used cross sectional survey and were especially in the areas of special and inclusive education. In Agriculture subject however, little studies have been carried out on teacher demographic characteristics on managing diversity amongst students of

Agriculture as a subject and attitude of students towards the subject. It is upon this premise that the study sought to establish the influence of selected teacher democratic characteristics on diversity management in teaching of agriculture in secondary schools using casual-comparative study in Homa Bay County, Kenya.

1.3 Purpose of the Study

The purpose of this study was to establish the influence of selected teacher characteristics on diversity management in teaching agriculture in secondary schools in Homa Bay County, Kenya.

1.4 Objectives of the Study

The following specific objectives guided the study;

i. To determine the influence of difference in gender of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County
ii. To determine the influence of difference in the level of training of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.
iii. To establish the influence of difference in the years of teaching experience of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.
iv. To establish the influence of difference in the age of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.

1.5 Hypotheses of the Study

The following null hypotheses were tested in the study:

$H0_1$: There is no statistically significant difference in the influence of the gender of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.

$H0_2$: There is no statistically significant difference in the influence of the level of training of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.

$H0_3$: There is no statistically significant difference in the influence of the years of teaching experience of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.

$H0_4$: There is no statistically significant difference in the influence of the age of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County

1.6 Significance of the Study

The study findings may be used by the MOE in executing stopgap measures aimed at ensuring inclusivity in agriculture education. The findings of this study may also be used by the school administrators in appreciating the influence of diversity management on the learners output in terms of mean achievement in Agriculture subject. It may also help teachers of Agriculture in appreciating and applying suggestions on classroom diversity management to make students develop positive attitude in Agriculture. The findings of this study may be used by Quality Assurance and Standards Department of the Ministry of Education to encourage teachers who are diverse themselves on how to handle learners' diversity within their classroom

1.7 Scope of the Study

The study focused on the influence of selected teacher demographic characteristics on diversity management in teaching of agriculture in secondary schools. The study was conducted in both national and extra county schools across Rachuonyo South, Rachuonyo North, Homa Bay Town, Ndhiwa, Mbita and Suba in Homa Bay County, Kenya. The study used casual comparative survey and a sample of 486 respondents including teachers of agriculture and students were involved in the survey.

1.8 Limitation of the Study

The major limitation on the study was that either of the two categories of respondents in the study was not willing to provide accurate data due to fear of uncertainty on the intention of researcher. However, this was countered, by researchers' initiative in explaining to the respondents that the intention was to prepare thesis report for academic purposes and that their identities would be kept anonymous.

1.9 Assumptions of the Study

The study made the following assumptions:

i. Teachers of Agriculture in the public national and extra county secondary schools in Homa Bay County could recognise learners with diversity in their classes.

ii. The participants in the survey would provide accurate data

iii. That there would be higher level of questionnaire response rate.

iv. That students who were involved in the survey had positive attitude in agriculture as their career subject.

1.10 Operationalization of Terms

Demographic Characteristics	Inherent features of an individual that are stable over time (Braff, 2011). In this study, the term refers to the unique features of a teacher (gender, age, years of teaching experience, professional qualification) that influences the way they interact with students with diversity.
Diversity in Education	In this study the term will be used to refer to the presence of learners from different backgrounds and with different academic abilities and needs in agriculture education in public secondary schools. (Baff, 2011).
Diversity Management Strategy	The terms are therefore used in this study to refer to ability of the teacher to accept and support learners from different backgrounds (Baff, 2011). Strategy on the other hand is used in the study to refer to specific techniques that the teacher of agriculture used to assist the learners overcome challenges emanating from their backgrounds and teacher's adoption of specific techniques to assist the learners overcome challenges emanating from their backgrounds and dispositions in order to makes the learner fit within the classroom.
Level of achievement	The extent to which a student, teacher or institution has achieved their short or long-term educational goals (Ayedemi, 2011). In this study, the term has been used to refer to the amount of academic content in Agriculture a student learns in a determined amount of time.
Professional Qualification	The specific master's degree, undergraduate degree, diploma certificate awarded to a teacher in a specific area (UNESCO, 2006). For this study, the term refers to master's degree, undergraduate degree, diploma certificate in Agriculture Education.
Teaching Experience	The number of years one has spent teaching a given subject (UNESCO 2006). In this study, the term was used to refer to the number of years a teacher has spent teaching Agriculture in either a private or public secondary school upon obtaining a diploma or degree certificate.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents literature reviewed in support of this study. The chapter consists of the following sub-sections: diversity management strategies in the classroom; selected teacher demographic characteristics and diversity management; theoretical framework; and conceptual framework.

2.2 The Concept of Diversity

A broad understanding of diversity holds that diversity has many meanings. It includes race, class, gender, religion, culture, different levels of physical and mental ability, different talents, different sexual orientations, different lifestyles, family norms, and different languages (Carson & Lester, 2015). According to Gurin (2012) aspects of what might be called diversity-rich content of professional development include, but are not limited to, learning activities that help teachers: investigate and understand how students' race, ethnicity, social class and language might be related to their learning and behaviour; understand how the overgeneralization of characteristics of students' cultures can result in stereotyping and other unproductive teaching behaviours; examine how their own beliefs and dispositions might affect their relationships with diverse students; understand how they react to students' dress, accents, nonverbal communication, dialects and discussion modes and how their reactions affect their interactions with students; know how to mediate the effects of stereotype threat experienced by students; and develop the knowledge and skills to adapt instruction to the needs and experiences of students from different racial and ethnic groups.

Delaney, Johnson and Treslan (2010) define diversity as the sum of the ways that people are both alike and different. The dimensions of diversity include race, ethnicity, gender, sexual orientation, language, culture, religion, mental and physical ability, class, and immigration status. According to Chidester (2008), much discussion about diversity focuses on the following forms of marginalization: race, class, gender, and sexual orientation — and rightfully so, given the importance of these forms of difference.

In fact, students come to secondary schools from different backgrounds making the study of diversity feasible. Additionally, issues of diversity play a role in how students and teachers view the importance of the classroom and what should happen there. It means understanding

that each student is unique, and recognizing our individual differences can be used to manage their diversity efficiently to improve their attitude and output in the performance in Agriculture.

Brown (2013) posits that students may perceive that they do not "belong" in the classroom setting — a feeling that can lead to decreased participation, feelings of inadequacy, and other distractions. Teachers may make flawed assumptions of students' capabilities and imagine best practices in managing classroom diversity to improve learners' performances.

2.3 Diversity Management Strategies in the Classroom

According to LaVergne, Elbert and Jones (2011), the diversity classroom management challenge is to inculcate an approach that is sensitive to varied teaching modalities and not devalue and repress groups along ethnic, culture, class, race, and gender and ability lines. This view is aligned with the international vision presented by UNESCO that education needs to find content and learning strategies that enable all to learn to live together, UNESCO (2003).

While some researchers (Whiting & Young, 2012) root for the matching of learning style and instructional style in order to manage diversity in the classroom, others (Aaronson, Barrow & Sander, 2013; Rivkin & Hanushek, 2005; and Rockoff, 2004) suggest that teachers appeal to the diversity of learning style using different forms of instruction. Moreover, research projects looking at ways to strengthen teachers' capacity in the USA to deal with the various factors of diverse communities (Hil, Phelps & Friedland, 2007) revealed that gaining experiences in communities other than one's own helps teachers to consider students' cultural background and their academic knowledge when planning for diverse classroom settings.

Brown (2013) in his study of diversity management strategies of teachers in selected schools in Baltimore (UK) suggested a culturally responsive teaching approach as a means of managing diversity in the classroom through respecting cultures and using the experiences of various groups as meaningful resources for teaching and learning. The study shows that promoting an academic community of learners creates a sense of belonging, shows respect for human dignity and promotes the individual's self-concept.

The approach promotes the modification of traditional direct instruction to include other types of instruction, approaches and teaching styles in order to offer all students, irrespective of their uniqueness, just educational opportunities. He further posits that the current strategies

of effective teaching and learning such as holistic approach, direct teaching, co-operative learning, mastery learning, diagnostic prescriptive approach, task analysis, peer tutoring, thematic teaching, team teaching and project based instruction among others are significant in effective teaching and learning of agriculture.

Chidester (2008), in a study of diversity management among South African teachers concluded that if a teacher wishes to facilitate the learning process of students with a variety of backgrounds and needs, the teacher needs to treat all students as individuals with unique strengths, weaknesses, and needs rather than as generalized representatives of particular racial, ethnic or cultural; groups; employ a variety of teaching styles to respond to the needs of diverse learners; and create an open classroom that values the experiences and perspectives of all students. Similarly, Odhiambo (2013) observed that teachers have varying perspectives of human differences and skills handling human diversity in the classroom; hence should carefully consider each student's unique needs and learning style, as well as the demands of the task.

Delaney, Johnson and Treslan (2010) posit that there are three main purposes for student rating of teacher effectiveness in meeting their unique subject needs: a formative one of giving student diagnostic feedback, both positive and negative, to the school administration about their teaching and areas in need of improvement, and two additional purposes of a summative nature: providing administrators with evaluative data used in personnel decisions such as tenure and promotion, and enabling students to reach out to their peers and formalise that blend of information and opinion that circulates in the informal student grapevine.

A number of studies have been conducted to establish the perceptions of students on the effectiveness in meeting their unique needs. More than two decades of research findings are unequivocal about the connection between teacher quality and student learning (Delaney, Johnson & Treslan, 2010). However, heated debate concerning the merits and the shortcomings of students' evaluations of teaching (SETs) continues to flourish, despite intensive ongoing research and international growth in their use as one indicator of teaching quality.

Cross-sectional studies have typically reported that SETs are negatively related to age and years of teaching experience (Overall & Marsh, 2009) although SETs may increase slightly during the first few years of teaching. However, Pijl (2010) in his Italian cross-sectional survey of 431 high school agri-science teachers on diversity management asked the students

to rate their teachers of Agriculture on their effectiveness in meeting the needs of the students during lessons. The findings concluded that female and old teachers were perceived by students to be more accommodative of slow learners and underachievers than their male and younger counterparts respectively. From this study, it can be understood that demographic dispositions of teachers have a significant influence on how they manage diversity in their classes.

Further, Ayedemi (2011) while investigating the opinion of students on how effective their teacher was in meeting their needs during Agriculture lessons in secondary schools in Ondo State, Nigeria made similar conclusions. The study established that majority of the students who participated in the study as respondents were of the opinion that female teachers of Agriculture were more supportive to them than the male teachers. However, the male teacher students (on teaching practice) and the newly employed male teachers were more supportive to all learners irrespective of their differences than their female counterparts of the same category. From the study, it is evident that although there is a relationship between the demographic characteristics of teachers and their ability to manage diversity, this changes as the teachers stay longer in the profession.

In the Tanzanian study by Mlozi, Kagua and Nyamba (2013) out of the 375 students who participated 326 (87%) reported that older male teachers were more supportive and effective in their teaching Agriculture than younger male teachers. Further, the study reported that teachers with more years of teaching experience were equally more supportive of learners irrespective of their differences than newly employed teachers.

From the foregoing review, the research on student ratings of instruction, while voluminous in other areas has had minimal focus on the perceptions of the Agriculture students who do the rating on how demographic characteristics of teachers of Agriculture relate to their ability to manage diversity in their classes in Kenyan schools.

Further, literature on classroom management has paid scanty attention to issues of diversity; the available literature on diversity has focused limited attention to classroom management yet matters of classroom management, instruction, learning, and diversity are almost inseparable. Moreover, there is little or no information regarding diversity management strategies in Agriculture classroom in Kenyan schools. Thus, the study sought to establish how teachers of Agriculture manage diversity in their classrooms.

2.4 Influence of Selected Teacher Demographic Characteristics on Diversity Management

In this section, the study reviews literature on the Teachers' demographic characteristics such as gender, level of training and years of teaching experience, age and their influence on classroom diversity management in secondary schools.

2.4.1 Gender of Teachers and Diversity Management

Some, research studies support the view that there is no correlation between a teacher's gender and their ability to accommodate learners with diversity in their classrooms (Stoler, 2012; Whiting & Young, 2012; Van Reusen, 2011; Avramidis, *et al*., 2000). Additionally, Cornoldi, *et al*., (1998) commented on a Victorian study concluded that gender was not a significant factor in determining teacher's attitudes toward inclusive education. However, other studies that investigated teacher ability to support learners with slow learners, found that female teachers were more inclined to support learners with diversity and appeared to have higher expectations of students experiencing difficulties than their male counterparts (Avramidis & Norwich, 2002; Avramidis, *et al*., 2000).

In Italy, Pijl (2010) in a cross-sectional survey of 431 high school agri-science teachers on their ability to accommodate learners with diversity in their classroom, female teachers were found to score significantly higher than their male counterparts in the acceptance scale. In this study, it was concluded that that there is a significant correlation between gender of teachers and their ability to support learners with diversity in their classroom. Madine (2011) in a longitudinal study of teachers' acceptance of diversity in Ghana established that acceptance of learners with diversity in secondary technical, science and mathematics classes is stable over time in terms of the gender of teachers. The study found that female teachers consistently scored higher in acceptance scale over a period of time than their male counterparts. Further, the study established that the scores of male teachers in the acceptance scale were relatively unstable.

In Tanzania, Mlozi, *et al*., (2013) investigated the factors influencing students' academic performance in community and government built secondary schools in Tanzania, where 55 teachers and 375 students participated. The findings indicated that arts-based subject teachers were more accommodative to diversity than their science-based subject teachers. In the study, the science-based subjects were Chemistry, Biology, Agriculture, Physics and Technical Drawing. Moreover, it was established that female teachers were more accommodative to

diversity than their male counterparts. The findings were attributed to the general sympathetic and motherly nature of female teachers; and that both male and female students experiencing difficulties preferred female to male teachers. Waithera (2013) investigated the challenges to teaching and learning of agriculture in secondary schools in Kakuyuni division, Kangundo district, Machakos County, Kenya. The study established that most students preferred choosing agriculture owing to the gender of the teachers of the subject. From the study, 89% of the respondents both male and female students indicated that they would only study agriculture only if it was being taught by a female teacher. From this study, it was concluded that the gender of the teacher significantly influenced their ability to influence students, even those with diverse backgrounds, to pursue the subject in high school.

From the reviewed studies, it is evident that in most cases, the female teachers of agriculture were found to be more accommodative to diversity than their male counterparts. This could be due to the motherly nature of female teachers who could be more tolerant to student diversity than their male counterparts. In general, there is no empirical evidence on how significant gender influences the ability of the teachers to manage diversity from the reviewed studies. In Kenya, however, such studies are limited and therefore there is need for more research in this area, especially in agriculture education programmes in secondary schools.

2.4.2 Level of Training of Teachers and Diversity Management

There are several studies which have investigated whether there is any significant correlation between a teacher's professional qualification to that teacher's ability to accept and support learners with diversity in regular classrooms (Stoler, 2012; Whiting & Young, 2012; Avramidis, 2000; Cornoldi, 1998). These and more studies, however, have varied findings and conclusions on how significant this demographic characteristic relates to diversity management.

According to Pumsaran (2010) training of teachers, especially in component of special education positively affects their ability to effectively include learners with diversity in their classes. This was reported following the study of the impact of professional qualification of 234 teachers on acceptance of inclusion in science-based subjects in secondary schools in Thailand. established that Agriculture Education teachers with training at least a component of training in special needs education (SNE) were found to be more accepting to learners with

diversity. The study concluded that training in SNE significantly affects a teacher's ability to practice of learners with challenges and those at risk of academic failure.

In a cross-sectional survey by Ayedemi (2011) among 512 Nigerian high school teachers in Ondo State on their ability to accept and support learners from low socioeconomic status, marginalized groups and those at risk of academic failure in their classes, it was established that teachers of Agriculture and other science based subjects with some elements of training in SNE and those with more post-graduate training fostered more acceptance to such learners than their counterparts with no training at all in SNE. Similarly, the study concluded that training in SNE exposes teachers to skills and attitudes useful in practicing inclusion.

In Kenya and Uganda, the education policy is such that teacher training institutions currently must offer a component of training in SNE in order to equip teachers with the knowledge, skills and attitudes necessary for fostering diversity management (Kasirye, 2009). However, empirical evidence of how significant professional qualification of teacher of agriculture as a variable influences their ability to manage diversity in their classrooms is scanty. Thus, the study found out to what extent the level of training of teachers influences their ability to manage diversity in their classrooms.

2.4.3 Years of Teaching Experience of Teachers and Diversity Management

Concomitantly, teaching experience is another teacher-related characteristic cited by several studies as having an influence on teachers' ability to accept and support learners with diversity. Ben and Ikutal (2015), Ochann (2012) and Waheed (2009) posit that younger teachers and those with fewer years of experience have been found to be more supportive to integration/inclusion of learners with diverse needs in regular education settings. While Avramidis, Bayliss and Burden (2000) concluded that the acceptance of children with diverse learning needs was highest among educators with less than six to ten years of teaching, Carmen (2015) believes in the opposite; teachers with 14 years or less teaching experience had a significantly higher positive score in their acceptance. Further, there was no significant difference in acceptance of learners with diversity among teachers whose teaching experience was between one and four years, five and nine years and ten and 14 years. Although, younger teachers and those with fewer years of experience are more supportive of inclusion, researchers have concluded that teaching experience is not significantly related to teachers' abilities to accept learners with diversity in their classroom.

Findings from a study comprising 183 elementary and secondary urban and rural teachers in Haiti concluded that teachers did not differ in their acceptance and ability to support learners with diversity (Dupoux, 2006). Experience of contact with SEN or disabled persons is an important teacher variable that shapes acceptance of diversity. The 'contact hypothesis' suggests that as teachers implement inclusive programmes and therefore get closer to students with significant disabilities, their attitude might become more positive and thus their likely to support such learners and those at risk of academic failure (Yuker, 1988 cited in Avramidis & Norwich, 2002).

Possessing previous experience as an inclusive educator appears to positively predispose teachers toward supporting learners with learning challenges (Jobe, 2006 and Avissar, 2000). It would appear that previous experience in this field, allows mainstream teachers to feel more comfortable within the inclusive classroom (Avissar, 2000). Direct experiences of including students with disabilities into mainstream settings appeared to be an essential factor in shaping teachers' views toward inclusive settings (Villa, Thousand, Meyers, & Nevin, 2006). However, Briggs (2002) point out that the nature of previous contact should be positive as it is this that results in positive attitudes toward inclusive education.

As experience of mainstream teachers with children with SEN increases, their acceptance of learners with diversity in a positive direction (LeRoy & Simpson, 2006). Janney and Raynes (2012) found experience with low ability children as an important contributing factor to their eventual acceptance by teachers. Overall, teachers with much experience with disabled persons had significantly more favourable attitudes than those with little or no experience.

In Oyo state in Nigeria, Fadairo, Olatunji and Akwiwu (2013) investigated the influence of age and teaching experience of teachers in implementing agriculture education programmes in secondary schools. The findings indicated that teachers who were older and by extension a longer period of teaching experience were more understanding and accommodating to learners with diversity (low achievement, difference socio-economic backgrounds etc.) unlike their younger counterparts.

The study concluded that longer years of teaching experience positively correlate with ability to accept and accommodate learners with varied abilities and backgrounds. Muchiri, Odialla, Kathuri and Kirungi (2013) investigated the perception of agriculture teachers of secondary school Agriculture in 60 secondary schools in Meru Central, Kenya. The study also determined the relationship between perception of secondary school agriculture and

agriculture teachers' professional qualifications and their teaching experience. Using an ex-post facto design, the study established that Agriculture teachers' teaching experience had no significant relationship with their perception of secondary school agriculture students, those with diversity included. It was concluded that agriculture teachers had a positive perception of secondary school agriculture. In Kenya, information on how teaching experience and age influences the ability of teachers of Agriculture to accept and support learners with diversity in secondary schools is scarce as compared to the same information in primary and special schools, as well as in other subjects.

2.4.4 Age of Teachers and Diversity Management

According to Muchiri and Kiriiungi (2015), age is one of the factors that significantly influences how educators handle challenges of diversity in their respective classrooms. However, Alufohai and Ibhafidon (2015) observe that a few studies exist in literature on teachers' age and diversity management. This is because many highly developed countries like America do not care about the age of a teacher in relation to teaching.

In other parts of the world apart from America, studies have been carried out to establish the correlation between the age of educators and their ability to practice diversity management, with varied findings and conclusions (LaVergne, 2008). For example, in a study by Rubie-Davies (2011) on the teacher demographics and diversity management in science based subjects in Pakistan 25 teachers and 67 students from 7 secondary schools were sampled.

The study made use of a lesson observation schedule to gauge how the teachers interacted with the learners during their lessons. The findings indicated that teachers whose details indicated that they were less than 30 years of age and those who were aged above 40 years were accommodative to diversity than their counterparts aged between 31 – 40 years. The study, however, concluded that the age of the teacher does not necessarily affect their ability to accommodate diversity in the classrooms. In a study carried out by Martin and Smith (2013) in Turkey, age of the teachers was grouped into three levels – young age, middle age and old age. From the analysis of data on the influence of teachers' age on the academic achievement of students, it was revealed that students taught by a teacher between the ages of 35 and 40 years felt more satisfied in their unique needs being met than students taught by teachers between the ages of 45-50. The study revealed that middle aged teachers were more effective in classroom organization, competence, motivation and ability to meet the unique needs of learners in their classes. This implies that the middle aged teachers were found to be

more effective in managing classroom diversity than their counterparts who were either young or old.

Although this study provides an insight into the possible influence of age of the teacher on diversity management, it did not specifically focus on Agriculture as a subject. However, a later study with a different cohort by Deharty (2017) found no significant differences between the ratings of old and younger teachers in terms of competences and management of student diversity in the classroom. A similar conclusion was made by Abdullahi, Mlozi and Nzalayaimisi (2015) who investigated the determinants of student achievement in Agricultural sciences in secondary schools in Katsina State, Nigeria.

In Botswana, Mwamenda and Mwamenda (2012) studied the relationship between the teacher characteristics and pupil achievement. Age was one of the characteristics considered in this study. The findings showed that there is no significant correlation between the teacher's age, competence and pupil achievement. Given that pupil achievement has a significant positive correlation with the ability of the teacher to meet their unique needs, it can be inferred from this study that there is no significant correlation between the age of the teacher and their ability to manage diversity.

Although there is emerging research on how the age of the teacher influences their ability to manage diversity in the classroom, literature on the same with regards to Agriculture is scanty and inconclusive in Kenya. Thus, the study established how the age of teachers of Agriculture influences their ability to manage classroom diversity, given than Agriculture is an optional subject towards which students have often had varied attitudes.

2.5 Theoretical Framework

This study relied on Social Learning Theory that was developed by Lev Vygotsky (Lev Vygotsky, 1978) from Banduras' 1977 Self efficacy theory). When applying his theory to the classroom, Vygotsky specifically addresses teachers as crucial instruments which allow children to reach their Zone of Proximal Development (ZPD).

The ZPD can be defined as the distance between one's actual level of development as an independent problem solver and that of their potential development when assisted by a More Capable Peer (MCP). The theory informs the study since it requires teachers to have a sense of control over their environment and behaviour, as this will enable them to understand their learners' uniqueness, in relation to his competencies and classroom environment to facilitate

goal attainments; thus will make them more commitment to their calling. Teachers with a strong locus-of-control are more likely to maintain a higher sense of self-efficacy (Bandura, 1977) will steer their learners despite their diversity to greater heights of goal attainment despite of obstacles that may undermine motivation. Vygotsky (1978) believe that one can build on one's knowledge through interaction and co-operation with one's peers or more capable persons. Hatch (1978) supports that classroom interaction contributes to the development of learning by providing practice opportunities. Moreover, Alwright (1984) suggests the importance of classroom interaction that it provides authentic communication opportunities in the classroom

Moreover, Alwright (1984) suggests the importance of classroom interaction that it provides authentic communication opportunities in the classroom. In the classroom, teachers and other peers act as experts or facilitators of information. To act as a facilitator of information means to channel expertise by acting as a model through explanation or both.

By participating socially in a cultural community, children have the opportunity to learn faster and more effectively through observing and dialoguing with peers. However, Pia (2010) observes that the pattern of teacher-student interaction is an intricate interplay between the teacher's academic and professional qualification, attitude towards the students, age and teaching experience.

Feldrnan's (1985) Cognitive Consistency Approach was relevant in this study in understanding the relationship between the teachers' attitude and inclusion in schools and also the commitment of teachers towards inclusion of learners with diversity. According to the theory, increased consonance in attitude will lead to increased teacher commitment towards diversity inclusion in schools. Vygotsky (1993) in his socio-cultural theory proposed that changing social attitudes should be one of the first goals of special educators.

This theory was relevant in this study because the right attitudes of teachers towards diversity inclusion are vital for the goals of education to be realized. An important facet of Vygotsky's theory that relates to special education practice was his call for 'inclusion based on positive differentiation' (Gindis, 2013). Vygotsky was equally critical of segregation and mindless inclusion. In his early writings he advocated what is now called the Full inclusion model (Lipsky & Gardner, 2006). However, he was always equally critical of segregation and mindless inclusion. This theory was most relevant for this study because of its firm belief in meaningful inclusion of learners with diversity.

2.6 Conceptual Framework

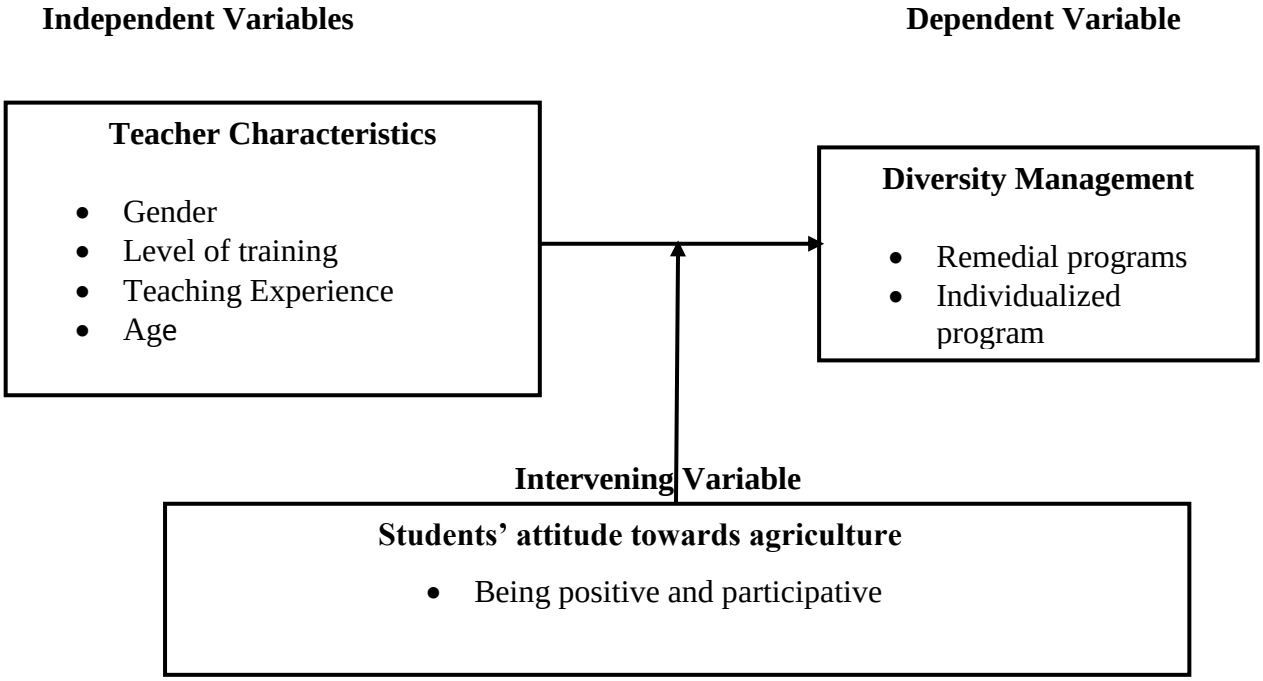

Figure 1: Conceptual Framework on Influence of Teacher Characteristics on Diversity Management.

The conceptual framework in Figure 1 presents the influence of teacher characteristics as independent variable and diversity management on the other hand as dependent variable. It was conceptualized that there was a possible direct influence of characteristics of the teachers of Agriculture such as gender, level of training, and years of teaching experience on their ability to effectively manage diversity in their classrooms.

The parameter of diversity management includes remedial, individualised teaching and follow - up programs indicates the influence of the independent variable on the dependent variable. However, this influence was further mitigated by the intervening variable – students' attitude towards agriculture.

To control the effect of the intervening variable, only form three and four students of agriculture to whom the importance of the subject in choosing career path has been explained to and have developed a favourable attitude towards the subject were allowed to participate in the survey

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology that was used in the study. It includes; research design, location of the study, study population, sampling procedure and sample size, research instruments, validity and reliability of the research instruments, data collection and data analysis procedures.

3.2 Research Design

The study used causal comparative survey design because it enabled the researcher to use numeric description in comparing the influences of varied selected demographic characteristics of teachers of agriculture on student's diversity management. Since independent variables could not be manipulated, the design was able to explain and describe the outcome of Teachers' characteristics on the dependent variable (Onen & Osoo, 2005). The design also recognizes administration of questionnaires to facilitate the collection of data to justify the influence of the independent variables on the dependent variable.

3.3 Location of the Study

The study was carried out in Homa Bay County in Kenya, covering an area of 3,183.3km^2 with a population of 963,794 (KDHS, 2009). It is located 420km west of Nairobi on the shore of Lake Victoria at 0.52^0 S and 343.45^0E, and is bordered by five counties, namely: Migori to the South, Kisii and Nyamira to the East, and Kericho and Kisumu to the North East. The county also borders Lake Victoria to the North and West. The County is comprised of national schools which accommodate students with diversity, presenting learners from both agricultural and non-agricultural backgrounds, from both low and high socio-economic status, learners with diverse academic entry behaviours, as well as learners with a variety of special learning needs. The nature of the economic activities within the county like, sugarcane farming, fishing, maize farming, cattle rearing requires agricultural knowledge that ought to be acquired by the learners in schools.

3.4 Target Population

The study targeted a population of 2,190 comprising of 90 teachers and 2,100 forms three and four students of Agriculture from National schools and extra – county schools in Homa Bay County. This presented a situation with students from different socio-cultural backgrounds

and academic entry behaviours in Homa Bay County. Only Forms three and four students taking agriculture were targeted, presumably because they have a favourable attitude towards the subject, and were in the best position to provide information on how teachers meet their diverse needs.

3.5 Sampling Procedure and Sample Size

Homa Bay County was chosen for the study since it had two national secondary schools; one-boys, one girl's national schools and many performing extra county schools. The schools drew interest of researcher because they were boarding schools falling in category of national and extra country schools which drew students from varied social cultural and agricultural background. Further, the researcher was conversant with the social- cultural practices, being a native and did not require an assistant of language interpreter in administering research instrument. Purposive sampling was used to select national and extra-county schools with student population of over 1700, in Homa Bay County. From the above population within the sample frame, the study arrived at sample size of 486 to participate in the study through purposive and simple random sampling for teachers and students respectively.

Purposive sampling that was used enabled the researcher to direct study instruments to only forms three and four students taking Agriculture in each school. Similarly, it made the researcher to focus his attention and thus direct instruments and oral interview to only teachers of agriculture in each school. Yamene (1968) formulae used to determine the sample was as follows;

$$n = \frac{N}{1 + N*(e)^2}$$

Where:

n=sample size;

N=population within the sample frame

e=margin of error which is fixed at .04%).

Substitution:

$$n = 2190/1+2190*0.0016$$

$$= 2190/1+3.504$$

= 2190/4.504

= 486.234

= 486

3.6 Instrumentation

Questionnaires were the main tools that were used in data collection and were divided into; Questionnaires for Teachers of Agriculture (Appendix B), Questionnaire for Students of Agriculture (Appendix C) and a Lesson Observation Schedule (LOS) (Appendix D). Questionnaires were preferred for this study because they allowed the participants to freely respond to questions within the time frame without compulsion or intimidation (Kombo & Tromp, 2009). They were also preferred since they were easy to analyze and were cost effective, and enabled the researcher to collect data from a large number of respondents within the time limit of the research (Mugenda & Mugenda, 2009).

The lesson observation schedule was used in this study because it helped to eliminate possible subjectivity in responses generated by the questionnaire. The lesson observation schedule is a data collection tool, which is a modified teaching Practice Schedule, used for measuring the quality of teaching (Ong'ele, 2007; Mathoko, Mathoko & Mathoko, 2007).

The Questionnaire for Teachers of Agriculture had two parts: A and B. Part A was used to collect demographic characteristics about the teacher (gender, peak academic and professional qualification, years of teaching experience and age). Part B contained items that were used to solicit quantitative data on the strategies that the teachers of Agriculture use to manage diversity and the level of satisfaction with management of classroom diversity.

The Questionnaire for Students of Agriculture, too, had two parts: A and B. Part A was used to collect demographic data about the teacher and students. Part B contained items that were used to solicit quantitative data on the strategies that the teachers of Agriculture used to manage diversity and the level of satisfaction of Agriculture students with their Agriculture teacher's management of classroom diversity. The lesson observation schedule contained information such as, the name of the school, teacher's personal details, preparation and implementation of lesson plan as well as schemes of work, issues of teacher-student interaction, resource utilization and teacher personality. LOS was used to provide data on teacher's classroom interaction and management of learners. From the Likert Scale, all the positively stated statements were coded as follows:

Strongly Agree = 3.50 to 4.00

Agree = 2.50 to 3.49

Disagree = 1.50 to 2.49

Strongly Disagree = 1.00 to 1.49

Undecided = 0 to 0.90

3.6.1 Validity

Validity is the degree to which results obtained from the analysis of data actually represent the phenomenon under study (Golafshani, 2003). The questionnaires to be used in the study were developed by the researcher in line with the research objectives. The questionnaire items were examined and moderated by the supervisors and other research experts in the Department of Agricultural Education and Extension at Egerton University. This helped in ensuring the content validity and the construct validity of the items. The validity of the instruments was further improved during piloting as the pilot respondents were asked to respond to the questions in the questionnaire that helped to reframe the questionnaire items, making them more appropriate and understandable to the level of the respondents.

3.6.2 Reliability

Reliability is a measure of consistency of the questionnaire (Golafshani, 2003). The researcher carried out a pilot study to determine the reliability of the questionnaires. Four high schools in Rachuonyo South Sub-County were chosen for the pilot study as they had similar characteristics as the study area. In this, purposive sampling was used to pick four Schools with 82 respondents (8 teachers and 74 students) of proposed sample (Mugenda & Mugenda, 2003) for pilot study. As well, randomly sampled teachers and students of Agriculture were selected from the pilot schools and given questionnaires which they responded to and their comments used to modify the questionnaire items. From the pilot study, the two questionnaires for students and teachers gave Cronbach alpha reliability coefficient of 0.72 and 0.79 respectively and were and considered acceptable, since they were well above 0.70 (Mugenda & Mugenda).

3.7 Data Collection Procedure

The examined and approved proposal was presented to the Board of Post-Graduate Studies of Egerton University. Upon approval, the Board issued the researcher with a letter which was

used to seek a research permit from the National Commission for Science, Technology and Innovation (NACOSTI) and clearance letters from the respective Sub-County Directors of Education that were used to notify the principals of the sampled schools. The researcher sought informed written consent and appointments from the sampled schools for data collection. The principals of the schools to be visited for the study had to write authorization letters to the researcher in which specific dates of visitation for study was indicated. On the appointed days, the researcher personally conducted the study and used the letters to identify himself, before being permitted to interact with specified group of respondents, distributed the questionnaires and collected them for analysis after the sessions.

3.8 Data Analysis

The researcher first pre-processed data to correct the problems identified in the raw data such as by elimination of unclear and inconsistent answers and then developed a coding scheme that guided further analysis (Kombo & Tromp, 2009). This study was intended to generate mainly quantitative data from the instruments administered. Thus the data was analyzed using one-way ANOVA and Regression, to bring out independent variable as predictive of the dependent variable. The analysis was conducted using the Statistical Package for Social Scientists 22 and the data presented in terms of tables and graphs. ANOVA and regression of coefficient were also used in the analysis in testing the hypotheses.

Inferential statistics, independent-samples t-test and Analysis of variance were used to test the null hypotheses. These tests were necessary because of the nature of the variables, independent variables being categorical and dependent variable being continuous. The responses on classroom diversity management were converted into a continuous scale. Mean response across a set of questions of Likert scale responses in each item were computed to create an approximately continuous variable that is suitable for the use of the parametric methods. All the negatively worded statements were reversed, such that high scale ratings implied high perceived level of classroom diversity management and vice-versa. The independent variables (gender, age group, level of experience, level of training) were all categorical variables. In all the hypotheses, the significant level (p-value) was set at 0 .05, such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference exists. If the p-value was larger than 0.05, it would be concluded that a significant difference does not exist. These are contained summary of statistical analysis in table 1.

Table 1: Summary of Statistical Analysis

Hypothesis/Research Question	Independent Variable	Dependent Variable	Statistical Analysis
$H0_1$: There is no statistically significant difference influence on gender of teachers' of Agriculture and classroom diversity management in secondary schools in Homa Bay County.	Gender of teachers of Agriculture	Classroom diversity Management	- ANOVA -T-test
$H0_2$: There is no statistically significant difference influence of level of training of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.	Level of training of teachers of Agriculture	Classroom diversity Management	- ANOVA -T-test
$H0_3$: There is no statistically significant difference influence of teaching experience of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.	Years of teaching experience of teachers of Agriculture	Classroom diversity Management	- ANOVA -T- test
$H0_4$: There is no statistically significant difference influence of age of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County.	Age of teachers of Agriculture	Classroom diversity Management	- ANOVA -T -test

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents questionnaire response rate, demographic information of the respondents, the levels of awareness of diversity, the results of the hypotheses testing, summary and discussion of the results.

4.2 Response Rate

Table 2: shows the summary of return rate of questionnaires from the researcher's respondents. It reveals that the questionnaires were adequate for the study.

Table 2: Questionnaire Return Rate

Respondents	Questionnaires administered	Questionnaires returned	Return rate (%)
Students	378	332	87.8
Teachers	108	89	82.4
Total	486	421	86.6

The researcher administered the instruments to sample of 486 comprising of 378 students and 108 teachers. Out of this 332 students and 89 teachers returned their questionnaires, translating to an overall response rate of 86.6%. Creswell (2014) and Mugenda & Mugenda (2003) recommend that a response rate of 50% is adequate, 60% is good and 70% and above is excellent for analysis and reporting on a survey study. Based on this assertion, the current study's response rate of 86.6% is therefore excellent; it was sufficiently representative of the target population. The recorded high response rate was attributed to the fact that the questionnaire in this study were personally administered by the researcher to the respondents, who were pre-notified of the intended and intention of the study. It was also due to extra efforts that was made in form of visits to the respondents to fill-in and return the questionnaires, the researcher made follow up calls to clarify queries as well as prompt the respondents to fill the questionnaires.

4.2 Demographic Information

4.2.1 Demographic Characteristics of Teachers of Agriculture

Table 3. Presents the demographic characteristics of the teachers of Agriculture who participated in the study.

Table 3: Demographic Characteristics of Teachers of Agriculture (n=89)

Variable	Sub-Variable	Frequency	Percentage
Gender:	Male	50	56.2
	Female	39	43.8
	Total	89	100.0%
Age:	30 years and below	12	13.5
	31-40 years	55	61.8
	Above 40 years	22	24.7
	Total	89	100.0%
Level of Training:	Masters	18	20.2
	Degree	56	62.9
	Diploma	15	16.9
	Total	89	100.0%
Teaching Experience:	Below 5 years	17	19.1
	6-10 years	34	38.2
	11-15 years	24	27.0
	Above 15 years	14	15.7
	Total	89	100.0%

From Table 2, it is evident that majority (56.2%) of the sampled teachers were males and only 43.8%of them were females. This implies that majority of the teachers of agriculture in secondary schools in Homa Bay County are males. With fewer female teachers of Agriculture, it implies that learners with diversity requiring special attention do not benefit much. This is supported by findings of Avramidis & Norwich (2002); Burden *et al*., (2000) who posited that female teachers were more inclined to support learners with diversity and appeared to have higher expectations of students experiencing difficulties than their male counterparts.

On their level of training, the study also found that about one out of five 20.2% of the teachers in the sampled schools had a master's degree. However, 62.9% of them were degree holders while the rest 16.9% were diploma holders, all specialized in teaching Agriculture. The finding implies that majority of the teachers had adequate training to equip them with some insights into diversity management in a classroom situation. Since majority of the teachers were trained, this gave them the required competence in classroom diversity management. This indicates that they were able to handle learners with learning challenges well. This was in line with Kasirye (2009) who had observed that well trained teachers are equipped with adequate skills in special needs to enhance their class room diversity management.

On their level of teaching experience, the study indicated that 19.1% had taught Agriculture for less than five years; 38.2% of them had taught Agriculture for between 6 and 10 years, while only 27.0% of them had taught Agriculture for between 11 and 15 years. It was established that 15.7% of the teachers of Agriculture in the sampled schools had taught Agriculture for more than 15 years. This finding imply that given that most of these teachers are likely to be recent college graduates, they are more likely to embrace the current dynamics of pedagogy, in which diversity inclusion is a key component.

In regard to the ages of the teachers, the study established that 61.8%of the sampled teachers were aged between 31 and 40 years, 24.7% of them were aged above 40 years, while only 13.5% were aged 30 years and below. These findings imply that majority of the teachers of agriculture in Homa Bay County are above thirty years of age.

4.2.2 Demographic Characteristics of Students of Agriculture

Table 4 presents the demographic characteristics of the students of Agriculture who participated in the study.

Table 4: Demographic Characteristics of Students of Agriculture (n =332)

Characteristic	Sub-variable	Frequency	Percentage
Gender:	Male	228	68.7
	Female	104	31.3
		332	100.0
Class:	Form Three	156	47.1
	Form Four	176	52.9
		332	100%
Presence of Special Need:	Present	56	16.8
	Absent	276	83.2
		332	100%

From Table 3, it is evident that there were more male than female students of Agriculture in secondary schools in Homa Bay County, at 68.7 percent and 31.3 percent respectively. Thus, the study established gender distribution of students of Agriculture and that of teachers of Agriculture in a school have a close similarity. The finding, just like that of the teachers of Agriculture, implies that Agriculture being a science oriented subject is a preference for male than female students.

The study also established that there were more (52.9) percent students in Form Four than their Form Three (47.1) percent counterpart who took part in the survey. Further, 276 students, representing 83.2 percent, reported that they do not have a special need in learning.

These findings indicate that either the students do not fully understand the concept of special needs in learning, or there are very few students with special needs in learning. The few numbers here imply that the teachers should be able to effectively embrace diversity inclusion in their classes, since they have very few students who may require additional attention.

4.3: Descriptive Findings

4.3.1: Gender of Teachers of Agriculture and Classroom Diversity Management

The study investigated difference in gender of teachers of Agriculture on the use of specific strategies by the sampled teachers of Agriculture in meeting the unique needs of learners with varying learning needs. The teachers were presented with a table to indicate the frequency with which they used specific strategies indicated (3= Very Often, 2=Often, 1 = Not Often). The scores were averaged with a maximum score being '3=Very Often'. Figure 2 presents the findings on the average of the scores obtained, based on the gender of the teachers.

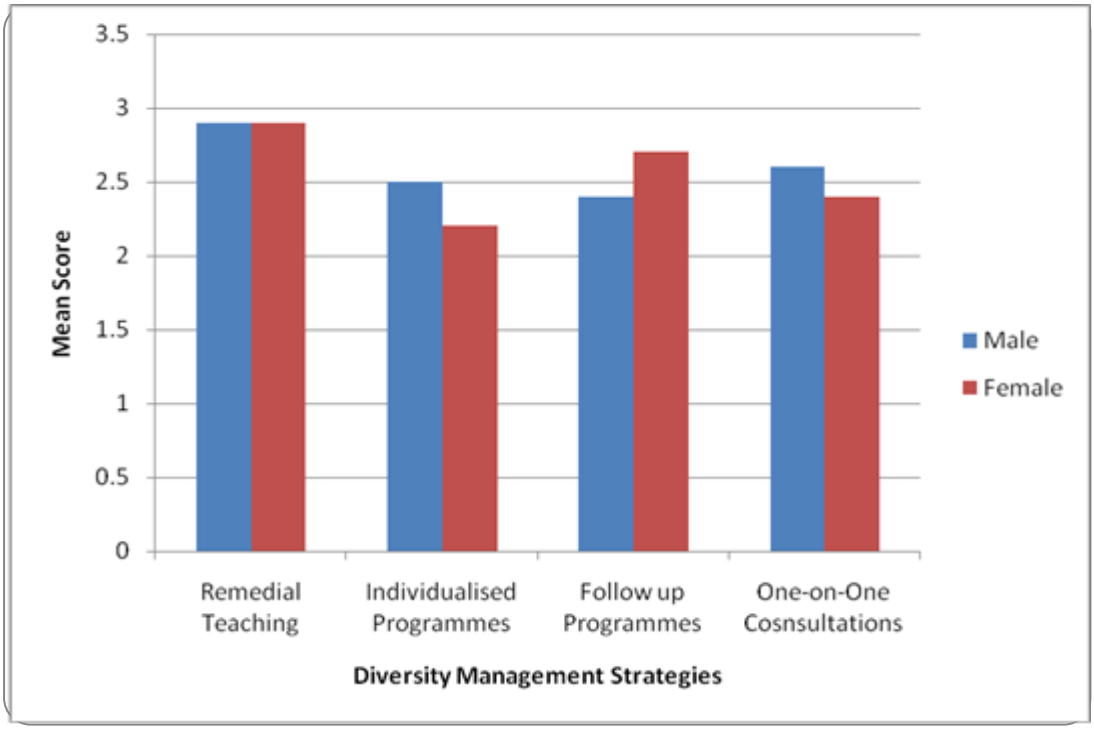

Figure 2: Rating on Diversity Management Strategies by Teachers of Agriculture

From Figure 2 it was established that the sampled teachers were responsive to the unique needs of learners in their classes. However, the figure indicates that female teachers were more responsive to these needs than the male teachers, as evidenced by their high mean scores than the male counterparts, in the use of all the diversity inclusion strategies investigated.

Figure 3 presents the findings from the sampled students on the difference in gender on the use of specific strategies by the sampled teachers of Agriculture in meeting the unique needs of learners with varying learning needs in their classes.

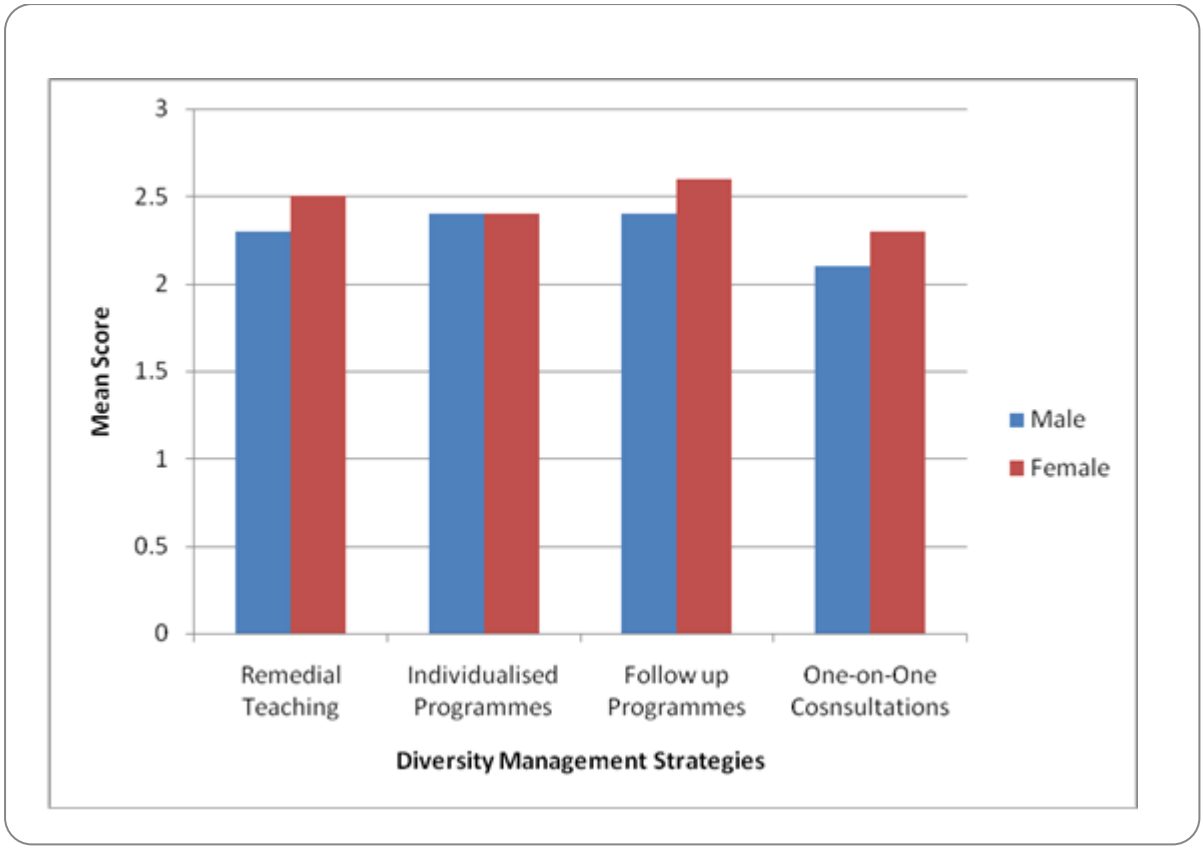

Figure 3: Rating on the Teachers' Use of Diversity Management Strategies by Students

Similarly, the students of Agriculture were presented with a table to indicate the frequency with which their teachers used specific strategies indicated (3= Very Often, 2=Often, 1 = Not Often). The scores were averaged with a maximum score being '3=Very Often'. From Figure 3, it is evident that the sampled teachers of Agriculture were responsive to the unique needs of learners in their classrooms. However, female teachers obtained higher means than their male counterparts in using the specified diversity inclusion strategies, except in the use of 'Individualized Programmes and 'One-on-One Consultations' where male teachers obtained higher means. Further, the data on inclusive classroom practices obtained from the LOS was analysed into percentages, by the gender of the 10 teachers. Table 4 presents the findings.

Table 5: LOS Scores of Teachers of Agriculture on Inclusive Classroom Practices by Gender of Teachers

Scores (Percentages)	Male		Female	
	Frequency	Percentages	Frequency	Percentages
76-100	1	10	2	20
51 - 75	6	60	0	0
26-50	1	10	0	0
0 -25	0	0	0	0
Total	8	80	2	20

The finding on Table 5 indicates that from the LOS, all the female teachers of Agriculture were found in the upper quartile (scores of 76% - 100%), than their male counterparts, majority of whom (60%) fell in the third quartile (scores of 51% - 75%). This is a possible indicator that in general, the female teachers of Agriculture who participated in this study were more responsive to diversity in their classroom than their male counterparts.

This finding concurs with the assertion of Mlozi, Kagua and Nyamba (2013) that female teachers are more accommodative to diversity than their male counterparts. Likewise, Madine (2011) found that female teachers consistently scored higher in acceptance scale over a period of time than their male counterparts; with the scores of male teachers in the acceptance scale being relatively unstable.

Similarly, Pijl (2010) had previously reported that female teachers score significantly higher than their male counterparts in the acceptance scale with a conclusion that there is a significant correlation between gender of teachers and their ability to support learners with diversity in their classroom.

4.3.2: Training of Teachers of Agriculture and Classroom Diversity Management

The study investigated difference in specific strategies by the sampled teachers of Agriculture given their level of training on meeting the unique needs of learners with varying learning needs. First the teachers were asked to indicate their highest professional qualification as teacher of agriculture. The finding on their training was as shown in Figure 4.

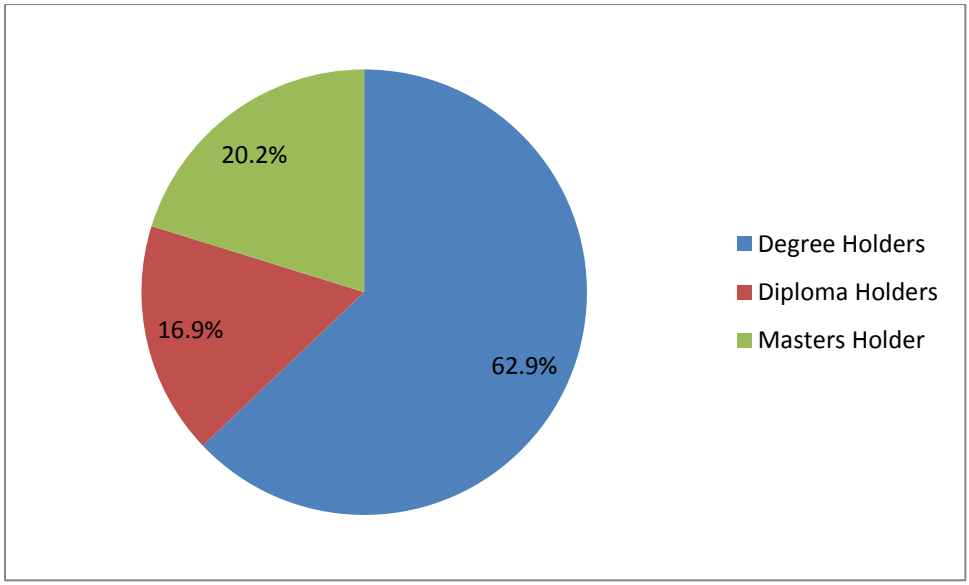

Figure 4: Teachers Training on Agriculture

The study found that majority 62.9 % of the teachers were degree holders while 16.9 % were diploma holders and 20.2 % of them had masters, all trained in teaching Agriculture. This shows that majority of the teachers had adequate training to equip them with appropriate knowledge and skills to manage diversity in a classroom situation.

Likewise, the study sought to know how often the teachers used teaching strategies that were in line with diversification of methods to accommodate learners with special needs. The teachers were presented with specific strategies and were asked to rate them using; 3= Very Often, 2=Often, and 1 = Not Often, the frequency of use of the method.

The scores were averaged with a maximum score being '3=Very Often'. Figure 5 presents the findings on the average of the scores obtained, based on the Level of Training of the teachers.

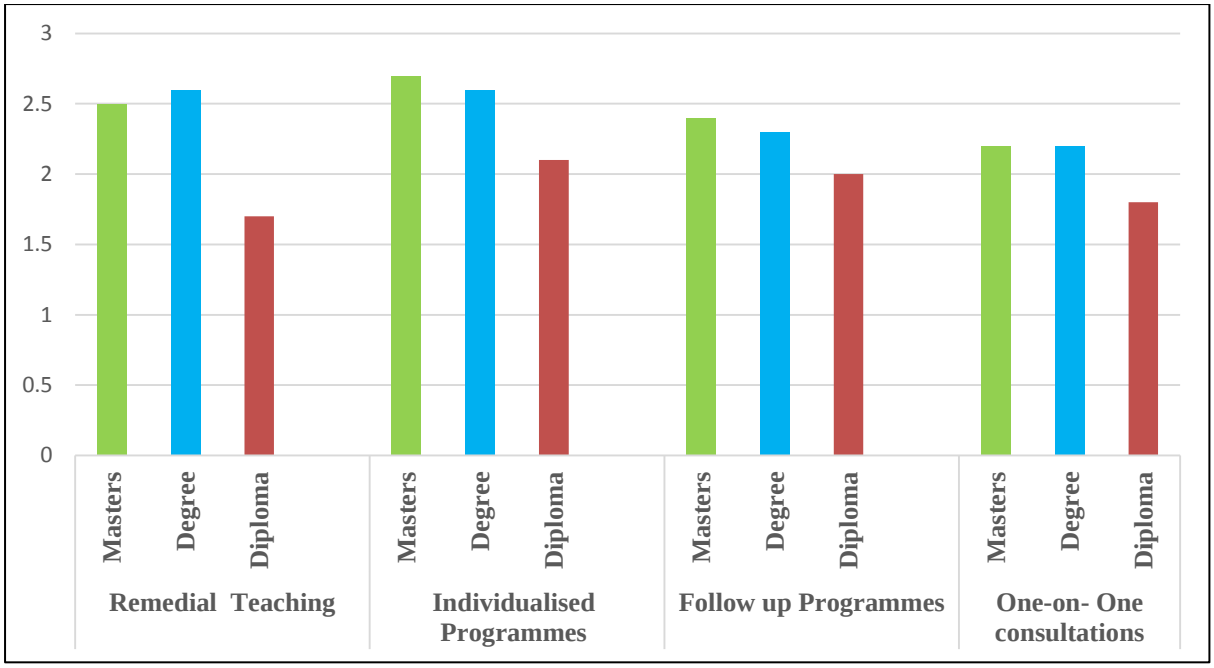

Figure 5: Mean Scores by Level of Training on the Use of Diversity Management Strategies by Teachers of Agriculture

From Figure 5, it is shown that although all the sampled teachers were responsive to the diversity of learners, teachers with masters or degree were more responsive in using specified strategies than teachers with diploma qualifications, as evidenced by the high mean scores in all the cases. This indicates a considerable difference in classroom diversity management exist among the teachers with different professional training qualifications.

Further, the findings on inclusive classroom practices obtained from the LOS were analyzed into percentages, by the Level of Training of the teachers of Agriculture, as shown in Table 6.

Table 6: LOS Scores of Teachers of Agriculture on Inclusive Classroom Practices given the Level of Training.

Scores (Percentages)	Master Holders		Degree Holders		Diploma Holders	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
76-100	2	20	0	0	0	0
51 - 75	1	10	3	30	1	10
26-50	0	0	0	0	3	30
0 -25	0	0	0	0	0	0
Total	3	30	3	30	4	40

Findings on Table 6 indicate that from the LOS, 20 % of teachers of Agriculture with masters were found in the first quartile score (76-100), 30 %of them with degree qualifications were found in the second quartile (scores of 51 - 75 percent, while their counterparts with diploma qualifications had 30 of them in the third quartile (scores of 51 - 75) percent. This further shows that generally the teachers of Agriculture with masters or degree qualifications who participated in this study were more responsive to diversity in their classroom than their counterparts with diploma qualifications.

This finding concurs with the point of view held by Ayedemi (2011) that teachers of Agriculture and other science based subjects with some elements of training in SNE and those with post-graduate training foster more acceptance to learners with special needs than their counterparts with no training at all in SNE. Equally, it supports the findings of a study by Pumsaran (2010) which had established that Agriculture Education teachers with at least a component of training in special needs education (SNE) were more easily accepted by learners with diversity than their counterparts without such training. This is because training provides teachers with appropriate knowledge, skills and attitudes that enhance their capacity to effectively manage diversity.

4.3.3: Years of Teaching Experience of Teachers of Agriculture and Classroom Diversity Management

The study investigated difference in years of teaching experience of teachers of Agriculture on the use of specific strategies by the sampled teachers of Agriculture in meeting the unique needs of learners with varying learning needs. The teachers were asked to indicate the frequency with which they used specific strategies indicated (3= Very Often, 2=Often, 1 = Not Often). The scores were averaged with a maximum score being '3=Very Often'. Figure 6 presents the findings on the average of the scores obtained, based on the years of teaching experience of the teachers.

Table 7: Mean Scores by Years of Teaching Experience on the Use of Diversity Management Strategies by Teachers of Agriculture

Years of experience	N	Remedial Teaching	Individualised programme	Follow up programmes	One-on-One consultation
Below 5 years	17	2.62	2.42	2.44	2.43
6-10 years	34	2.51	2.36	2.22	2.34
11-15 years	24	2.72	2.62	2.73	2.44
Above 15 years	14	2.73	2.71	2.65	2.46

From Table 5, it is evident that in terms of years of teaching experience, the teachers of Agriculture who participated in this study were found to be generally moderately responsive to the diversity of learners. However, teachers with 11 – 15 years of teaching experience were found to be more responsive to diversity than their counterparts with less years of teaching experience. Significant to note is the finding that teachers with less than 5 years of teaching experience were found to be more responsive to diversity than their counterparts with 6 – 10 years of teaching experience. This implies that upon graduation from college, teachers practice more of what the training has equipped them with. Later, the dedication diminishes along the line. However, as they mature in the teaching profession, they become more responsive to the needs of their students.

Data on inclusive classroom practices obtained from the LOS was analysed in percentages, by years of teaching experience of the teachers of Agriculture, Table 8 presents the findings:

Table 8: LOS Scores of Teachers of Agriculture on Inclusive Classroom Practices by Years of Teaching Experience

Scores (Percentages)	Less than 10 years		Above 10 years	
	Frequency	Percentages	Frequency	Percentages
76-100	1	10	2	20
51 – 75	5	50	1	10
26-50	1	10	0	0
0 -25	0	0	0	0
Total	7	70	3	30

The LOS finding in Table 8 indicates that in terms of years of teaching experience, teachers of Agriculture were almost evenly distributed in the 2nd, 3rd and 4th quartiles. This is a possible indicator that generally, the years of teaching experience does not necessarily have a significant bearing on the ability of the teacher to embrace inclusive classroom practices.

The findings of this study contrast that by Fadairo, Olatunji and Akwiwu (2013) that had indicated that teachers who were older and by extension with longer period of teaching experience were more understanding and accommodating to learners with diversity than their counterparts with less experience. On the contrary, these findings are in tandem with that of Muchiri, Odialla, Kathuri and Kirungi (2013) who concluded that Agriculture teachers' teaching experience had no significant relationship with their perception of secondary school agriculture students, those with diversity included.

4.3.4: Age of Teachers of Agriculture and Classroom Diversity Management

The study investigated difference in age of teachers of Agriculture on the use of specific strategies by the sampled teachers of Agriculture in meeting the unique needs of learners with varying learning needs. The teachers were presented with a table to indicate the frequency with which they used specific strategies indicated (3= Very Often, 2=Often, 1 = Not Often). The scores were averaged with a maximum score being '3=Very Often'.

Figure 6 presents the mean scores by age on the use of selected diversity management strategies by Teachers of Agriculture.

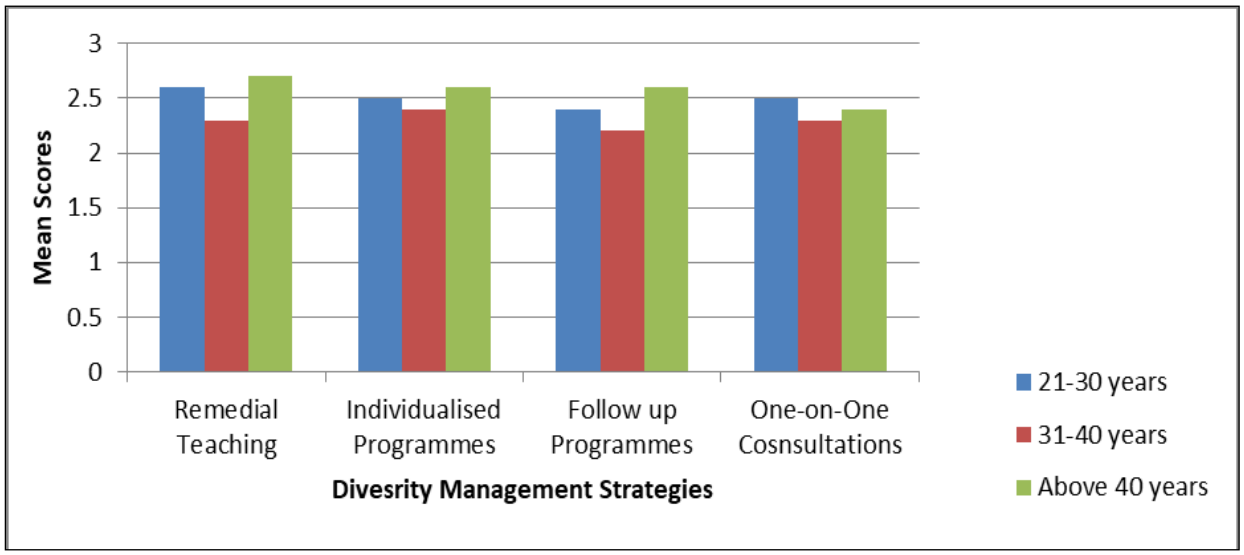

Figure 6: Mean Scores by Age on the Use of Diversity Management Strategies by Teachers of Agriculture

From Figure 6, it is evident that in terms of age, the teachers of Agriculture who participated in this study were found to be generally of moderate responsiveness to the diversity of learners. However, teachers aged above 40 years were found to be more responsive to this diversity than their counterparts who are younger, except in the use of one-on-one consultation where teachers aged between 21 and 30 years scored the highest mean. This implies that older teachers seem to understand and manage student diversity more than their younger counterparts. Equally, data on inclusive classroom practices obtained from the LOS was analysed in percentages, by the age of the teachers of Agriculture as presented in Table 9.

Table 9: LOS Scores of Teachers of Agriculture on Inclusive Classroom Practices by Age

Scores (Percentages)	Below 30 years		Above 30 years	
	Frequency	Percentages	Frequency	Percentages
76-100	3	30	0	0
51 – 75	3	30	3	30
26-50	1	10	0	0
0 -25	0	0	0	0
Total	7	70	3	30

The finding on Table 9 indicates that 30% of teachers of Agriculture who were observed using the LOS were aged below 30 years were found in the upper quartile (scores of 76 - 100) percent. However, in the third quartile (scores of 51 - 75) percent, the distribution of these teachers were equal, at 30 percent. This is a possible indicator that generally, the years of teaching experience does not necessarily have a significant bearing on the ability of the teacher to embrace inclusive classroom practices. The study concurrence with Martin & Smith (2013) who found out that Aged teachers between 45-50 years were motivated and competent in classrooms diversity management including special need cases. However, the findings contradict Rubie-Davies (2011) reported that teachers who were less than 30 were accommodative to diversity than their counterparts aged between 45-50 years.

4.3.5: Classroom Diversity Management among the Teachers of Agriculture

The study sought to investigate the level of classroom diversity management among the teachers of agriculture in secondary schools in Homa Bay County. This was done using a five itemed Likert scaled questionnaire. Teachers were to rate their items whose constructs were indicators of application of inclusive education ranging from 1 (strongly disagree) to 5 (strongly agree). Their findings were summarized in percentage frequencies as shown in Table 10.

Table 10: Classroom Diversity Management by the Teachers of Agriculture (n=89)

Statement of strategies	SA	A	U	D	SD
All learners irrespective of their agriculture backgrounds should always be allowed to study agriculture	3.4	5.6	13.5	29.2	48.3
All learners irrespective of their gender should always be allowed to study agriculture	9.0	20.2	11.2	28.1	31.5
All learners irrespective of their socio-economic backgrounds should always be allowed to study agriculture	13.5	10.1	10.1	36.0	30.3
All learners irrespective of their learning abilities should always be allowed to study agriculture	39.3	29.2	7.9	12.4	11.2
All learners irrespective of their cultural backgrounds should always be allowed to study agriculture	7.9	18.0	10.1	25.8	38.2
All learners irrespective of their academic abilities should always be allowed to study agriculture	20.2	18.0	11.2	29.2	21.3
Learners who are academically weak need to be supported so as to study agriculture	34.8	21.3	7.9	16.9	19.1
I do create extra time for my students	34.8	29.2	9.0	12.4	14.6
I'm always available for my students when they need my assistance in the subject.	41.6	18.0	7.9	15.7	16.9
I mix students from different agricultural backgrounds in my agriculture class.	24.7	23.6	19.1	12.4	20.2
I maintain conducive learning environment in class	25.8	29.2	12.4	16.9	15.7

I do establish, teach, and positively state classroom expectations	30.3	28.1	13.5	12.4	15.7
I always manage behaviour through effective instructional delivery	12.4	12.4	15.7	19.1	40.4
I always actively engage students through use of varied instructional strategies	22.5	36.0	16.9	12.4	12.4
I always maximize positive interactions	20.2	15.7	10.1	28.1	25.8
I use a continuum of strategies to acknowledge expected behaviour	38.2	30.3	5.6	13.5	12.4
I use a continuum of strategies to respond to rule violations	32.6	15.7	18.0	12.4	21.3
I develop caring and supportive relationships	27.0	24.7	13.5	11.2	23.6
I teach about responsibility and provide opportunities for students to contribute to the functioning of the classroom	25.8	23.6	10.1	18.0	22.5
I check students' books regularly	37.1	27.0	9.0	7.9	19.1

The findings of the study revealed that there is generally fair application of classroom diversity management among the teachers of agriculture in secondary schools in Homa Bay County. This was revealed by the teachers of agriculture responses on the indicators of diverse classroom management. For instance, 48.3% of the sampled teachers did not believe that all learners irrespective of their agriculture backgrounds should always be allowed to study agriculture only 9% of the teachers held the feeling that all students irrespective of their background in agriculture has potentials of doing agriculture. Equally, only 29.2% of the teachers agreed that all learners regardless of their learning abilities should always be allowed to study agriculture, but majority 59.6% of them thought gender of a student is an important consideration for choice of agriculture as a subject in secondary school.

On the contrary, 66.3% of the sampled teachers of agriculture rejected with the claim that all learners irrespective of their socio-economic backgrounds should always be allowed to study agriculture. In fact, 64.0% of the teachers believed that cultural backgrounds of learners are important in selection of agriculture as subject.

However, it came out that many of the sampled teachers believed that academic ability should not be a consideration for a student to select a subject. For instance, 39.3% of the

teachers strongly believed that all learners notwithstanding of their learning abilities should always be allowed to study agriculture and 38.2% observed that all learners irrespective of their academic abilities should always be allowed to study agriculture. The teachers of agriculture observed that they have a role to play in classroom of learners with diverse characteristics. For example, close to one out of every two (48.3) percent of the teachers of agriculture who were sampled for study confirmed that they always mix students from different agricultural backgrounds in my agriculture class. Majority of the teachers indicated that they use good strategies in handling diversity; 34.8% strongly agreed that they do create extra time for their weak students, 41.6% of them confirmed that they are always available for their students when they need their assistance in the subject and 55.0% others alluded that they always strive to maintain conducive learning environment in their class just accommodate learners with diverse needs.

Equally, majority 58.4% of the teachers indicated that they always establish, teach and positively state classroom expectations, 24.8% of them said they always manage behaviour through effective instructional delivery and 58.5% others observed that they always actively engage students through use of varied instructional strategies just to capture the varied interest of learners. Similarly, although 24.8% of the teachers held a contrary opinion, 35.9% others believed that they always maximize positive interactions, but a significant majority (68.5) percent of the teachers alluded that they always use a continuum of strategies to acknowledge expected behaviour.

More than a half (51.7) percent of the teachers agreed that they always develop caring and supportive relationships with their students to enhance learning, 49.4% of them indicated that they teach about responsibility and provide opportunities for students to contribute to the functioning of the classroom.

To corroborate the findings from the teachers' responses, the students were asked to rate their agriculture teachers' strategies in managing diversity. Their views summarized in percentage frequencies as shown in Table 11.

Table 11: Students Response on Diversity Management Strategies by Agriculture Teacher

Category of learners	Remedial teaching	Individualized programmes	Follow-up programmes	One-on-one consultation
Fast learners	86 (25.9%)	56 (16.9%)	142 (42.8%)	48 (14.5%)
Slow learners	94 (28.3%)	79 (23.8%)	59 (17.8%)	100 (30.1%)
High achievers	85 (25.6%)	86 (25.9%)	104 (31.3%)	57 (17.2%)
Low achievers	112 (33.7%)	88 (26.5%)	67 (20.2%)	65 (19.6%)
Truants	87 (26.2%)	23 (6.9%)	162 (48.8%)	60 (18.1%)
Learners with special needs	74 (22.3%)	142 (42.8%)	68 (20.5%)	48 (14.5%)

The findings of the study established that students' diversity ranges from fast and slow learners, high and low achievers, as well as truants and special need students. The findings indicate that teachers manage the diversities differently. Importantly, low achievers are given 33.7% individualized teaching, 26.5% individualized attention as well as 20.2% follow up and 19.6% one to one consultations. Similarly, 22.3% of special need cases are given remedial programs as well as 42.8% individualized attention with 14.5% one to one consultations.

It implies that teacher's differences in terms of age, years of teaching experience, gender and training have built up the perquisite competence to manage diversity amongst learners of agriculture in schools in Homa Bay County.

Equally, the study sought to know the opinion of the students on their satisfaction with their agriculture teacher in meeting their needs during the Agriculture lessons. Table 12 shows their responses.

Table 12: Level of Students Satisfaction with their Agriculture Teachers

	Very unsatisfied	Unsatisfied	Satisfied	Very Satisfied
Frequency	44	67	145	76
Percentage	13.3%	20.2%	43.7%	22.9%

The findings reveal that 66.6% of student respondents acknowledged satisfaction with their teachers of agriculture skills in the management of their greater diversities- as 43.7% and 22.9% expressed that they were satisfied and very satisfied respectively. However, the findings also reveal that 13.3% were very unsatisfied with their teachers of agriculture skills in handling their uniqueness.

4.5 Testing of Hypotheses

In testing the hypotheses, the sampled teachers were give 5 itemed Likert scale questionnaires, whose items were indicators of classroom diversity management. The items were rated on a five-point scale from 1 (strongly disagree) to 5 (strongly agree). Inferential statistics, independent-samples t-test and Analysis of variance were used to test the null hypotheses. If the p-value was larger than 0.05, it would be concluded that a significant difference does not exist.

4.4.1 Testing of Hypothesis One

$H0_1$: There is no statistically significant difference in the gender of teachers of Agriculture in classroom diversity management in secondary schools in Homa Bay County.

The study sought to investigate whether difference in the gender of teachers of Agriculture in had any significant influence in their classroom diversity management in secondary schools in Homa Bay County. An inferential statistic independent-samples t-test was used to test the null hypothesis that there is no statistically significant difference in classroom diversity management between male and female teachers in secondary schools. The significant level (p-value) was set at .05, such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference exists. If the p-value was larger than 0.05, it would be concluded that a significant difference does not exist. The preliminary test done revealed that the assumption on equality of variance was not violated, as was reflected by the Levine's test=.736 >.05. Table 13 shows the independent-samples t test results output.

Table 13: Independent Samples t-test on the Relationship between Gender of Agriculture Teacher and Level of Classroom Diversity Management

Mean on Diversity		t	df	Sig. (2-tailed)	Mean Diff.	95% C.I	
Male (n=50)	Female (n=39)						
2.788 (SD=.586)	3.104(SD=.525)	-2.636	87	0.010	-.315	-.554	-.077

Table 11 shows the results of the independent-samples t-test conducted to compare the classroom diversity management scores for male and female teachers of Agriculture. It is evident that there was statistically significant difference in scores for males (mean =2.788, SD=.586) and females [mean=3.104, SD=.525; t (87) = -2.636, p=.010], with female teachers of Agriculture recording higher classroom diversity management practices than their male counterparts. Based on the fact that the p-value was less than the prior set significant level of .05, the null hypothesis was rejected and conclusion reached that there is statistically significant difference in classroom diversity management between male and female teachers in secondary schools. However, the study further computed the effect size, which provided an indication of the magnitude of the differences in the level of classroom diversity management practices between male and female teachers of Agriculture.

The magnitude of the differences in the means was fairly low (eta squared=.073), implying that 7.3 per cent of the variance in classroom diversity management practices in secondary schools in Homa Bay County was explained by the gender of the teacher of agriculture. Thus, the findings imply that the influence of the gender of teachers of Agriculture on their classroom diversity management in secondary schools in Homa Bay County is statistically significant.

4.4.2 Testing of Hypothesis Two

$H0_2$: There is no statistically significant difference in the levels of training of teachers of Agriculture in classroom diversity management in secondary schools in Homa Bay County.

The study sought to investigate whether the difference in the levels of training of teachers of Agriculture could have influence in their classroom diversity management in secondary schools in Homa Bay County. One-way between-groups Analysis of Variance (ANOVA) was

used to test the null hypothesis that there is no statistically significant difference in classroom diversity management among the teachers of agriculture with different levels of training in secondary schools. Analysis of variance was used because it compared the variance (variability in scores) between the different levels of training (believed to be due to the independent variable) with the variability within each of the groups (believed to be due to chance). The dependent variable, level of classroom diversity management, ranged from the scores of 1 to 5 with high scores indicating higher levels of classroom diversity management and the level of training were grouped in three categories; Group 1: Masters, Group 2: Degree and Group 3: Diploma. An F ratio was calculated to represent the variance between the groups. A large F ratio would indicate that there is more variability between the groups (caused by the independent variable) than there is within each group (referred to as the error term). A significant F test implied rejection of the null hypothesis, which states that the population means are equal. The significant level (p-value) was set at .05, such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference exists. If the p-value was larger than 0.05, it was concluded that a significant difference does not exist. Table 14 shows the descriptive analysis of the scores in the level of classroom diversity management among the groups of the teachers.

Table 14: Descriptive Results of Classroom Diversity Management per Teachers' Training Levels

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
Masters	18	3.21	.682	.160	2.874	3.553
Degree	56	2.97	.473	.063	2.846	3.100
Diploma	15	2.40	.511	.132	2.123	2.689
Total	89	2.92	.579	.061	2.804	3.048

From Table 14, it is evident that teachers of Agriculture with master's level of training had the highest mean in classroom diversity management, as reflected by a mean of 3.21 (standard deviation=.682 and standard error of .160), while teachers with diploma recorded the least mean at 2.406 (SD=.511 and SE=.132). Teachers with degree in agriculture had a mean of 2.973 (SD=.473 and SE=.063). The preliminary test of homogeneity conducted revealed that the assumption on equality of variance was not violated, as was reflected by the Levine's test=.105 >.05. The data was subjected to Analysis of Variance (ANOVA) test and the result was as shown in Table 4.15.

Table 15: ANOVA - Classroom Diversity Management and Teachers' Training Levels

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.662	2	2.831	10.188	.000
Within Groups	23.898	86	.278		
Total	29.560	88			

Table 4.15 reveals that there is statistically significant since it has sum of square of 29.560 and F [(2, 86) = 10.188, p=.000 <.05, difference in classroom diversity management among teachers of Agriculture with different levels of training in secondary schools in Homa Bay County. The fact that the significant value is less than .05 indicates that there is a significant difference somewhere among the mean scores on the dependent variable (classroom diversity management) for the three groups. However, this does not show which group is different from which other group. Therefore, having received a statistically significant difference, it was necessary to look at the results of the post-hoc tests in multiple comparison. Hence, the statistical significance of the differences between each pair of groups is provided in the multiple comparison results in Table 16.

Table 16: Multiple Comparisons: Classroom Diversity Management

Turkey HSD

Training (I)	Training (J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	Degree	.240	.142	.217	-.100	.581
	Diploma	.807*	.184	.000	.367	1.246
	Masters	-.240	.142	.217	-.581	.100
	Diploma	.566*	.153	.001	.201	.932
	Masters	-.807*	.184	.000	-1.246	-.367
	Degree	-.566*	.153	.001	-.932	-.201

*. The mean difference is significant at the 0.05 level.

The Post hoc test- Turkey HSD from multiple comparisons (Table 16) shows that teachers of agriculture with diploma level of training is statistically significantly different from the other two groups of teachers. That is, the teachers with diploma differ significantly in terms of their classroom diversity management scores with masters. The mean difference (.566) in classroom diversity management scores between teachers of agriculture with diploma and those with degree was statistically significant, p=.001. Equally, there was statistically significant mean difference in classroom diversity management scores between teachers with diploma and those with masters (p=.000 <.05). However, there was no statistical significant difference in means between teachers with degree and those with masters (mean difference=. -.24067; p=.217).

This finding implies that teachers of agriculture with diploma recorded significantly lower scores in classroom diversity management compared to the teachers with degree or masters, but there is no difference in classroom management between teachers with degree and those with masters.

Thus, the findings imply that the influence of the level of training of teachers of Agriculture and their classroom diversity management in secondary schools in Homa Bay County is statistically significant.

4.4.3 Testing of Hypothesis Three

$H0_3$: There is no statistically significant difference in the levels of teaching experience of teachers of Agriculture in classroom diversity management in secondary schools in Homa Bay County.

The study sought to investigate whether the difference in the level of teaching experience of teachers of Agriculture could influence their classroom diversity management in secondary schools in Homa bay County. One-way between-groups Analysis of Variance (ANOVA) was used to test the null hypothesis that there is no statistically significant difference in classroom diversity management among teachers of Agriculture with different levels of teaching experience in secondary schools in Homa Bay County. The levels of teaching experience were grouped in four categories; Group 1: Below 5 years, Group 2: 6-10 years; Group 3: 11-15 years and Group 4: above 15 years. An F ratio was calculated to represent the variance between the groups. A significant F test implied rejection of the null hypothesis, which states that the population means are equal. The significant level (p-value) was set at .05, such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference exists. If the p-value was larger than 0.05, it was concluded that a significant difference does not exist. Table 17 shows the descriptive analysis of the number of scores in the level of classroom diversity management amongst the groups of the teachers with different levels of teaching experience.

Table 17: Descriptive Results of Classroom Diversity Management per Teachers' Levels of Experience.

	N	Mean	Std. Deviation	df	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
5 years and below	17	2.900	.459	.111	2.663	3.136
6-10 years	34	2.939	.555	.095	2.745	3.133
11-15 years	24	2.829	.6990	.1426	2.534	3.124
Above 15 years	14	3.092	`.5629	.1504	2.767	3.417
Total	89	2.926	.5795	.061	2.804	3.048

From Table 17, it is evident that teachers of Agriculture with experience of above 15 years had the highest mean in classroom diversity management, as reflected by a mean of 3.09 (standard deviation=.563 and standard error of .150), while teachers with 11-15 years of experience recorded the least mean at 2.82 (SD=.699 and SE=.142). Teachers with 6-10 years of experience had a mean of 2.939 (SD=.555 and SE=.095) and those with 5 years or less had a mean of 2.900 (SD=.459 and SE=.111). The preliminary test of homogeneity conducted revealed that the assumption on equality of variance was not violated, as was reflected by the Levine's test=.805, p=.494. The data was subject Analysis of Variance (ANOVA) test and the results was as shown Table 4.18.

Table 4.18: ANOVA - Classroom Diversity Management and Teachers' Levels of Experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.633	3	.211	.620	.604
Within Groups	28.928	85	.340		
Total	29.560	88			

Table 4.18 reveals that there is no sufficient evidence to reject the null hypothesis (3, 85) = .620, p=.604 Hence, it was concluded that there is no statistically significant difference in classroom diversity management among teachers of Agriculture with different levels of teaching experience in secondary schools in Homa Bay County. The fact that the Sig. value is greater than .05 indicates that there is no significant difference noted anywhere among the mean scores on the dependent variable (classroom diversity management) for the four groups. Therefore, having received no statistically significant difference, it was not necessary to look at the results of the post-hoc tests in multiple comparison. From this analysis, it is notable that although differences exist in the way in which teachers manage diversity based on their years of teaching experience the differences are statistically insignificant.

4.4.4 Testing of Hypothesis Four

$H0_4$: There is no statistically significant difference in influence in the age of teachers of Agriculture in classroom diversity management in secondary schools in Homa bay County.

The study sought to investigate whether age difference among the teachers of agriculture could influence the level of classroom diversity management. Analysis of Variance (ANOVA) was used to test the null hypothesis that there is no statistically significant difference in classroom diversity management among teachers of Agriculture with different ages in secondary schools in Homa Bay County. The dependent variable, level of classroom diversity management, ranged from the scores of 1 to 5 with high scores indicating higher levels of classroom diversity management and the levels of teaching experience were grouped in three categories; Group 1: 21-30 years, Group 2: 31-40 years and Group 3: above 40 years.

An F ratio was calculated to represent the variance between the groups. A significant F test implied rejection of the null hypothesis, which states that the population means are equal. The significant level (p-value) was set at .05, such that if the p-value was less than 0.05, the null hypothesis would be rejected and conclusion reached that a significant difference exists.

If the p-value was larger than 0.05, it was concluded that a significant difference does not exist. Table 19 shows the descriptive analysis of the scores in the level of classroom diversity management among the groups of the teachers of different age groups.

Table 19: Descriptive Results of Classroom Diversity Management per Teachers' of Different Age Groups.

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
30 years and below	12	2.73	.701	.202	2.29	3.18
31-40 years	55	2.96	.587	.079	2.80	3.12
Above 40 years	22	2.92	.487	.103	2.71	3.14
Total	89	2.92	.579	.061	2.80	3.04

From Table 19, it is evident that teachers of Agriculture aged between 31-40 years had the highest mean in classroom diversity management, as reflected by a mean of 2.966 (standard deviation=.587 and standard error of .079), while teachers in the age group of 30 years and

below recorded the least mean at 2.737 (SD=.701 and SE=.202). However, teachers aged above40 years had a mean of 2.929 (SD=.487 and SE=.103).

The preliminary test of homogeneity conducted revealed that the assumption on equality of variance was not violated, as was reflected by the Levene's test=.462, p=.632. Subsequently, the data was subjected to Analysis of Variance (ANOVA) test and the results was as shown in Table 4.20.

Table 4.20: ANOVA - Classroom Diversity Management and Teachers' Levels of Experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.516	2	.258	.764	.469
Within Groups	29.044	86	.338		
Total	29.560	88			

Table 4.20 reveals that there is no sufficient evidence to reject the null hypothesis (2, 86) = .764, p=.469. Therefore, it was concluded that there is no statistically significant difference in classroom diversity management among teachers of Agriculture with different ages in secondary schools in Homa Bay County. The fact that the Sig. value is greater than .05 indicates that there is no significant difference noted anywhere among the mean scores on the dependent variable (classroom diversity management) among the three age groups. Consequently, having received no statistically significant difference, it was not necessary to look at the results of the post-hoc tests in multiple comparisons. Hence, from this analysis, it is evident that although differences exist in the way in which teachers manage diversity based on their age differences, the differences are not statistically significant.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The summary, conclusion and recommendations of this study are presented in this chapter.

5.2 Summary of the Study

The study investigated the influence of demographic characteristics of teachers of Agriculture (gender, level of training, years of teaching experience and age) on their classroom diversity management in secondary schools in Homa Bay County. The data was collected through the use of questionnaires for teachers and students as well as a lesson observation schedule. A total of 486 respondents were surveyed. The data was analysed using descriptive and inferential statistics using one-way ANOVA and regression and the following summaries were made:

On the influence of difference of Gender of Teachers of Agriculture on diversity management; the study revealed female teachers were more responsive to these needs than the male teachers, as evidenced by their high mean scores than the male counterparts, in the use of all the diversity inclusion strategies investigated. However, there were fewer female teacher of agriculture in secondary schools in Homa Bay County. Implying that there is no difference in class room diversity management. There was low diversity inclusion of learners in classes handled by male teachers of agriculture who are the majority.

On the difference in level of training of teachers of Agriculture; had adequate level of training that allowed them to manage classroom diversity. However, they had little difficulties in handling learners with special needs since other than general professional diplomas and degrees; they lack skills in special need management.

The third objective of the study was to establish the influence of the years of teaching experience of teachers of Agriculture on classroom diversity management among teachers of Agriculture in secondary schools in Homa Bay County. Only 15% of teachers were inexperienced having taught for 11 and 15 years.

The last objective of the study was to establish the influence of the age on classroom diversity management among teachers of Agriculture in secondary schools in Homa Bay County. Most of the sampled Teachers above 40 years were found to be more responsive to this diversity than their counterparts with who are younger,

5.3 Conclusions

From the findings of the study, it was concluded that: -

i**.** There was low class room diversity management due to imbalanced female gender inclusion in the teaching of agriculture in secondary schools in Homa Bay county, Kenya.

ii. There were more teachers with degree than diploma, currently teaching Agriculture in secondary schools in Homa Bay County. Despite the professional trainings of teachers of agriculture, they do not have skills in special needs education to make them holistic in classroom diversity.

iii. Ageing teachers of agriculture falling between 51- 75 years were competent in management of learners' diversity than teachers falling below 50 years of age.

iv. Not all teachers of agriculture had adequate experience to empower them in classroom diversity management since the study reveal that teachers of between 11 – 15 years of teaching experience were more responsive to diversity than their counterparts with less years of teaching experience.

5.4 Recommendations.

Based on the findings of this study, the following recommendations are made**;**

i. There should be high inclusion of female teachers by Teachers service commission in the teaching of agriculture as principals organizing capacity building opportunities for male teachers to improve their classroom diversity management.

ii. The MOE should direct Curriculum development to review the teachers' training curriculum to include more units on special needs to improve teachers' classroom diversity in secondary schools.

iii. The TSC should circulate a policy to principals of secondary schools to have newly recruited teachers under close guidance and supervision of senior teachers to improve on their knowledge in class room diversity management.

iv. The school principals should collaborate with MOE in order to organize capacity buildings- seminars and workshops to empower teachers of agriculture in classroom diversity management.

5.5 Suggestions for Further Research

The researcher recommends the following areas to be considered for further research :

i. Influence of extra training of teachers of agriculture on classroom diversity management.

ii. Influence of student-based factors on classroom diversity management by teachers of Agriculture.

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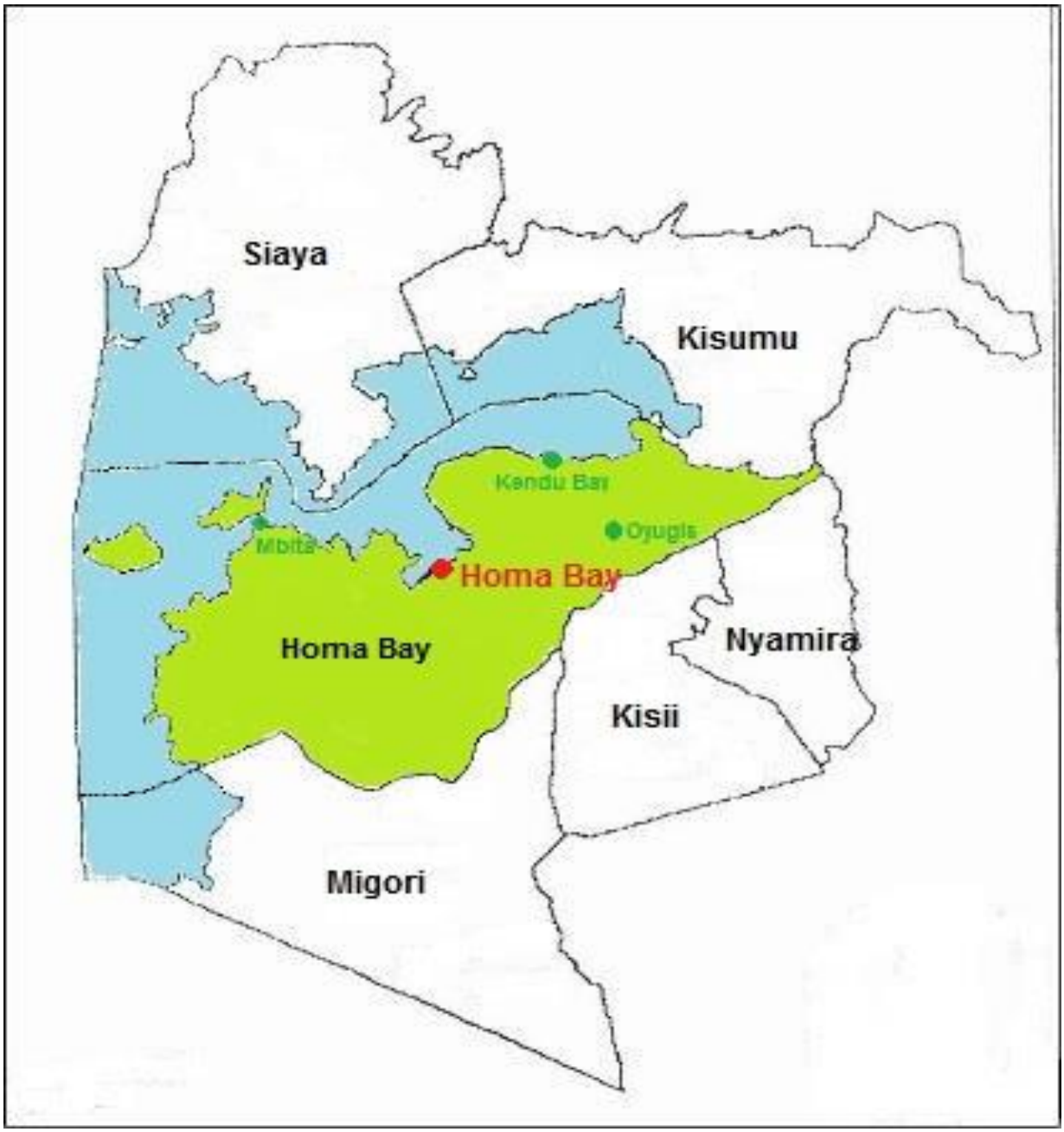
Appendix A

Map of Homa Bay County



Appendix B

Questionnaire for Agriculture Teachers

Introduction

My name is Peter O. Mborih, a student pursuing a Master of Science Degree in AgricultureEducation at Eger ton University. This questionnaire is designed to collect data on the influence of selected teacher characteristics on diversity management in teaching of agriculture in secondary schools in Homa Bay County, Kenya. You have been selected to participate in the study by helping in filling up this questionnaire. Your confidentiality will be safeguarded and guaranteed and the information provided will be used for academic purposes only.

Section A: Demographic Information

What is your gender? (Select One): Male ( ) Female ( )

What is your highest level of academic qualification? (Please tick the appropriate one)

Diploma ( ) B.Ed. ( )

B.Sc. ( ) Masters ( )

What are your years of teaching experience? (tick one)

Below 5 years ( ) 6 – 10 years ( )

11 – 15 years ( ) 16 – 20 years ( )

Above 20 years ( )

In which of the following age bracket do you fall? (tick one)

21 – 25 years ( ) 26 – 30 years ( ) 31 – 35 years ( )

36 – 40 years ( ) 41 - 45 years ( ) 46 – 50 years ( )

Above 50 years ( )

5. Are you aware of the concept of diversity management in the teaching of agriculture in secondary school? Yes ( ) No ( )

6. Have you taken any training in diversity management in teaching of agriculture?

Yes ( ) No ( )

If yes, kindly provide details.

Year	Main Content	Duration

7. List down types of diversity in your agriculture class you are aware of.

……
……
……

8. What are the three key challenges and three coping mechanisms on diversity management in your agriculture class?

……

……
……

9. What effort is the school making to encourage diversity management in the teaching of agriculture?

……

……

10. What needs to be done to entrench the culture of diversity management in your school?

……

……

Part B: Strategies for Classroom Diversity Management

11. In the following column, select and tick the column that best agrees with your opinion (use the following key: SA = strongly agree, A = agree, U = undecided, D = disagree, SD = strongly disagree).

	Statement of strategies	SA	A	U	D	SD
1	All learners irrespective of their agricultural backgrounds should always be allowed to study agriculture					
2	All learners irrespective of their gender should always be allowed to study agriculture					
3	All learners irrespective of their socio-economic backgrounds should always be allowed to study agriculture					
4	All learners irrespective of their learning abilities should always be allowed to study agriculture					
5	All learners irrespective of their cultural backgrounds should always be allowed to study agriculture					
6	All learners irrespective of their academic abilities should always be allowed to study agriculture					
7	Learners who are academically weak need to be supported so as to study agriculture					
8	I do create extra time for my students					
9	I'm always available for my students when they need my assistance in the subject.					

10	I mix students from different agricultural backgrounds in my agriculture class.					
11	I maintain conducive learning environment in class					
12	I do establish, teach, and positively state classroom expectations					
13	I always manage behaviour through effective instructional delivery					
14	I always actively engage students through use of varied instructional strategies					
15	I always maximize positive interactions					
16	I use a continuum of strategies to acknowledge expected behaviour					
17	I use a continuum of strategies to respond to rule violations					
18	I develop caring and supportive relationships					
19	I teach about responsibility and provide opportunities for students to contribute to the functioning of the classroom					
20	I check students' books regularly					

12. Using a scale of 1-3, indicate how often you use the following strategies to manage the identified category of learners (3 = very often, 2 = often, 1 = not often)

Category of learners	Remedial teaching	Individualised programmes	Follow-up programmes	One-on-one consultation
Fast learners				
Slow learners				
High achievers				
Low achievers				
Truants				
Learners with special learning needs				

13. In your opinion, how satisfied are the following categories of students in meeting their needs during the agriculture lessons? (Please tick only one per category)

Very unsatisfied	Unsatisfied	Satisfied	Very Satisfied

Thank you for your co-operation

Appendix C

Questionnaire for Agriculture Students

Introduction

My name is Peter O. Mborih, a student pursuing a Master of Science Degree in Agriculture Education at Egerton University. This questionnaire is designed to collect data on the influence of selected teacher characteristics on diversity management in teaching of agriculture in secondary schools in Homa Bay County, Kenya. You have been selected to participate in the study by helping in filling up this questionnaire. Your confidentiality will be safeguarded and guaranteed and the information provided will be used for academic purposes only.

Section A: Demographic Information

Gender (Select One):

Male ( ) Female ( )

Form: Three ( ) Four ( )

What is the gender of your teacher of agriculture?

Male ( ) Female ( )

Where would you classify your teacher of Agriculture in terms of age? (tick one)

Young ( ) Middle age ( ) Old ( )

Do you have any special need in learning?

Yes ( ) No ( )

6. Is the need a challenge to your learning in agriculture class?

Yes ( ) No ( )

7. How are you assisted to cope with the special need in agriculture lessons?

……

……

Section B: Diversity Management Strategies by Agriculture Teacher

8. Using a scale of 1-3, indicate how often your teacher of agriculture uses the following strategies to manage the identified category of learners (3 = very often, 2 = often, 1 = not often)

Category of learners	Remedial teaching	Individualized programmes	Follow-up programmes	One-on-one consultation
Fast learners				
Slow learners				
High achievers				
Low achievers				
Truants				
Learners with special needs				

9. In your opinion, how satisfied are you with your agriculture teacher in meeting the needs of the learners during the Agriculture lessons? (Please tick only one per category)

Very unsatisfied	Unsatisfied	Satisfied	Very Satisfied

10. Suggest anything your agriculture teacher should do to cater for the different learning needs in agriculture subject.

……

……

Thank you for your co-operation

Appendix D

Lesson Observation Schedule

School ……...……

Date……

Class……. Enrolment: Boys…….. Girls ……. Total……...……

Gender of teacher Male: ( ) Female: ( )

Highest level of academic qualification……years of teaching experience……

Age……

(Key: 1=very low; 2=Low; 3= Moderate; 4= High; 5= Very High)

ITEM OBSERVED	**SCORE**				
	1	2	3	4	5
PREPARATIONS Schemes of work					
Lesson plan objectives (SMART)					
Introduction					
Arousing Interest of the learners					
Link with the previous lesson taught					
INTERACTIONS Learners' classroom participation					
Use of discussion groups					
Varied learning activities					

Ease of understanding teacher's language					
Questioning technique					
Use of feedback					
Reinforcement					
Individualized attention					
Giving and marking exercises					
Class assignments					
Conclusion					
RESOURCES Improvisation					
Adaptation					
Adequacy of materials					
Use of models, realia, charts,					
PERSONALITY Friendly and approachable					
Confidence					
Conducive learning atmospheres					
TOTAL					

Appendix E:

Research Permit

THIS IS TO CERTIFY THAT:
MR. PETER OTIENO MBORIH
of EGERTON UNIVERSITY, 22-40300
Homa Bay,has been permitted to
conduct research in *Homabay County*

on the topic: *INFLUENCE OF SELECTED TEACHER CHARACTERISTICS ON DIVERSITY MANAGEMENT IN TEACHING OF AGRICULTURE IN SECONDARY SCHOOLS IN HOMA BAY COUNTY KENYA*

for the period ending:
11th July,2019

Permit No : NACOSTI/P/18/22259/23677
Date Of Issue : 13th July,2018
Fee Recieved :Ksh 1000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

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REPUBLIC OF KENYA

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RESEARCH CLEARANCE PERMIT

Serial No.A 19366

CONDITIONS: see back page

Appendix F:

Journal Publication

International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2018): 7.426

Influence of Gender of Teachers of Agriculture on Classroom Diversity Management in Secondary Schools in Homa Bay County, Kenya

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Abstract: *Recognition of diversity among learners' world over by teachers and school administrators' remains key in education. Teachers of Agriculture in secondary schools are aware of the existence of diversity among learners in their classes, but appear indifference in terms of demographic characteristics such as age, gender, level of training and years of teaching experience in managing learners with diversity in secondary schools. Although a number of studies have been conducted in Kenya on factors that affect learners' diversity management among teachers, much of such studies used cross sectional survey and were especially in the areas of special and inclusive education. The objective of this study was to examine the influence in gender of teachers of Agriculture on classroom diversity management in secondary schools in Homa Bay County, Kenya. A sample of 486 comprising of teachers and students of agriculture were considered in this study. Data collection instruments such as questionnaires and interview schedule were used and through a test-retest method during the pilot study an acceptable Cronbach's coefficient Alpha of 0.79 were obtained. Data was analysed using descriptive and inferential statistics. It is evident that there was statistically significant difference in scores for males (mean =2.788, SD=.586) and females [mean=3.104, SD=.525; t (87) = -2.636, p=.010], with female teachers of Agriculture recording higher scores in classroom diversity. Thus, the findings imply that gender of teachers of Agriculture had greater influence on their classroom diversity management in secondary schools in Homa Bay County, Kenya is statistically significant. The study recommends the need to balance gender with other demographic structures while posting teachers of agriculture to secondary schools to enhance classroom diversity management.*

Keywords: Classroom diversity, Diversity management, Gender, agriculture subject

1. Introduction

Education across the world is intended to prepare children in different ways for the positions they are expected to occupy in social, economic, and political life. According to Laverne, Elbert & Jones., (2011) there has been a substantial theoretical and practical shift of emphasis, mostly in mainstream education, towards acknowledging that teachers are among the principal components of any pedagogical program. In the last decade, research base increasingly showed that teachers are among the most important players influencing student achievement, holding the key to sealing the gaps in students' achievement outcomes Kantrovich, (2007); Kewal, R., A., Gilbertson, L., Fox, M. A. and Provasnik, S. (2007); Planty., Hussar., Snyder., Kena, Kewal Ramani, Kemp., Bianco, & Dinkes, (2009). Diversity in education encompasses students from different races, gender, and socioeconomic backgrounds, students who speak different languages, different learning abilities and students from different cultures Baff, (2011). Diversity management, thus, is the act of acknowledging these differences and, in turn, fostering an atmosphere to teach every student in the classroom effectively.

*According to Talbert & Edwins, (*2008) diversity is one of the most "significant social aspects" in the United States because of the rapid change in demographics which make secondary agriculture education programs to attract students from non-traditional backgrounds." The perceptions and needs of agriculture teachers on classroom diversity and inclusion have been well studied (Vommi, 2012) The findings of the study indicated that agriculture teachers understood the concept of classroom diversity. They felt confident teaching racially, culturally, and linguistically diverse students and students with disabilities.

Adequately defining the teachers' perceptions about students has been at the core of research and controversy. According to Baff (2011) the term "teacher characteristics" typically refers to qualities of teachers that can be measured with tests or derived from their academic or professional records. In the current world, teacher quality is treated as a crucial factor in the educational process and students' educational achievement Whiting, M., & Young, J. (2012). As such, broad reviews research on the effects of teachers' training (duration and specialization), pedagogical approaches towards teaching, teacher experience, attitude towards learners and teachers' advanced professional training has been conducted. Whiting & Young (2012) further contend that the demographic disposition of teachers has a significant influence on how they handle learners within and outside their classrooms. Research on diversity in the classroom has mainly been carried out in the United States of America (USA). Most of the research conducted in the USA during the 1970s investigated the policy of desegregation and not integration with a focus on conditions of equal status and respect within schools. Recent surveys from the USA have shown that both white and minority students in integrated school districts tend to report that they have learned to study and work together, developing confidence and skills to work in such settings (Gurin, 2012).

Teacher quality and ability has been a subject of research in various countries. For instance, in India, studies by Rivkin,