INFLUENCE OF STUTTERING EFFECTS ON EDUCATIONAL ACHIEVEMENT AMONG YOUNG ADOLESCENT LEARNERS WHO STUTTER IN PRIMARY SCHOOLS IN KAKAMEGA COUNTY, KENYA

BY

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Declaration

Declaration by Candidate:
This research thesis is my original work and has not been presented for award of a Degree in any other University or Institute.

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I dedicate this thesis to my wife, Celestine and son, Kenan who stood with me during the whole PhD programme. Dear, you are my source of strength and inspiration.

ABSTRACT

Stuttering is a speech disorder characterized by repetitions, prolongations, interjections, hesitations and blocks. The prevalence rate of persons who stutter (PWS) in the World is 1%. Kenya with an estimated 440,000 PWS, of which 16,606 live in Kakamega County. Results from a baseline survey carried in Western Kenya counties between 2010 and 2013 found that Kakamega had 138 Learners Who Stutter (LWS), Vihiga 84, Bungoma 33, and Busia 10. In Kakamega, learners were enrolled in 20 schools. The survey showed most LWS got below 250 marks out of 500 marks. For example, 59 (70.24%) LWS, compared to 785 (34.12%) regular learners who got below 250 marksin classes 6, 7 and 8. Research studies show that low performance was due to stuttering effects such as anxiety, self-stigma, fear, frustrations and embarrassment to the LWS. The influence of these stuttering effects on educational achievement elements such as social interaction, class participation, vocational aspirations and the extent to which they influence academic performance among LWS are unknown. The purpose of this study was to determine influence of stuttering effects on educational achievement among young adolescent LWS. Objectives of study were to; establish extent to which stuttering effects occur among LWS, determine influence of stuttering effects on social interactions among LWS, determine the influence of stuttering effects on classroom participation among LWS, determine the influence of stuttering effects on vocational aspirations among LWS and determine the extent to which stuttering effects influence academic performance among LWS. A conceptual framework showing stuttering effects as an independent variable, and educational achievement as a dependent variable guided the study. The study employed descriptive survey and correlational research designs. Target population consisted of 84 LWS, 2301 regular learners, 120 teachers and 20 head teachers. Stratified random sampling was used to select 329 regular learners, while saturated sampling method was used to select 76 LWS, 108 teachers and 18 head teachers. Data was collected using questionnaire, interview schedule, observation schedule and academic performance tests. Face and content validity of instruments was established through expert judgment and revision. Reliability of instruments was established through test-retest method on 10.00% of study population using Pearson correlation. Reliability coefficient for LWS questionnaire was 0.89; regular learners' questionnaire (0.86), class 6, 7 and 8 tests was 0.88, 0.75, and 0.89 respectively. This was above the initial threshold value of 0.7. Quantitative data was analyzed using frequencies, percentages and means. Correlation and multiple regressions were used to determine the influence of stuttering effects on educational achievement among LWS. Qualitative data was transcribed, analyzed and reported in emergent themes and sub-themes. Findings of study indicated five stuttering effects occurred very often among LWS (Mean= 4.37). Stuttering effects explained negative variation in social interactions (R^2 Change= .578, $p<.05$; 57.8%), classroom participation (R^2 Change= .529, $p<.05$; 52.90%). Most preferred vocational aspirations were farming (M= 4.53), being an artist (M= 4.51), engineering (M= 4.45), while least preferred were teaching (M= 2.75), poetry (M= 2.66), being a politician (M= 2.43), and preaching (M= 2.13). LWS least rated vocational aspirations that required much talking as a result of stuttering effects such as fear, anxiety, self-stigma, frustrations and embarrassment. Thus, stuttering effects negatively influenced vocational aspirations. Stuttering effects that influenced academic performance to a large extent among LWS were frustrations ($r= -0.91$, $R^2= .84$, $p<.05$; 83.54%) and ($r= -0.836$, $R^2= .699$, $p<.05$; 69.9%) in class 8 and 7 respectively, and embarrassment ($r= -0.84$, $R^2= .7123$, $p<.05$; 71.23%) for LWS in class six. In conclusion, stuttering effects negatively influenced educational achievement among LWS. The study recommends that; stuttering effects need to be minimized through sensitization for LWS to achieve educationally in terms of social interaction; participation in class such as asking and answering questions; teachers need to guide LWS in vocational aspirations. Frustrations and embarrassment need to be minimized in order to achieve good academic performance. The findings of this study are significant to LWS, teachers and regular learners to understand how stuttering effects influence educational achievement in terms of social interactions, classroom participation, vocational aspirations and academic performance among LWS.

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ABBREVIATIONS AND ACRONYMS

BSA - British Stammering Association

CWDS - Children Who Don't Stutter

CWS - Children Who Stutter

EARC - Educational Assessment and Resource Centre

FPE - Free Primary Education

LWDS - Learners Who Don't Stutter

LWS - Learners Who Stutter

MOEST - Ministry of Education, Science and Technology

MUERC - Maseno University Ethics and Research Committee

NSL - Non-Stuttering Learner

PWDS - People Who Do Not Stutter

PWS - People Who Stutter

QUASO - Quality Assurance and Standards Office

USA – United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Speech difficulty is an impairment of the articulation of fluency, speech sounds, and voice (Dyke & Holte, 2003). According to Saraswarthy and Myers (2009) there are three types of speech difficulties; articulation disorders, fluency disorders, and voice disorders. A child is said to have an articulation disorder when he or she makes sounds, syllables, and words incorrectly, such as additions, omissions, substitutions, and distortions. Voice disorders are characterized by the abnormal production and absence of vocal quality, pitch, loudness, resonance, or duration, given an individual's age and sex (Saraswarthy & Myers, 2009). A fluency disorder is a speech disorder characterized by difficulties in flow of speech. It is also referred to as stuttering or stammering (Ogutu, 2005).

According to Mckinnon, Sharynne and Reilly (2007), stuttering is the most serious speech disorder compared to voice and articulation disorders. This is a result of the negative traumatic consequences an individual goes through in all aspects of life. Stuttering is characterized by repetitions, prolongations, interjections, hesitations and blocks (Ogutu, 2005). This results in involuntary disruption of a person’s capacity to speak (Craig, Hancock & Tran, 2003). These affects an individual’s physical behaviour, emotions, perceptions, beliefs, attitudes, intentions and physiological responses (Ammon, 2010).

According to Zhang, Saltukaroglu, Hough, and Kalinowski ((2009), the prevalence rate of stuttering is one percent (74 million people) of the total population in the world. A review of literature showed hardly any empirical research had been done on

stuttering in Kenya (Stammering Kenya, 2013). The study was carried out in class six, seven and eight because most of the children were undergoing early adolescence stage (12-15 years); experiencing physical, emotional, cognitive, social and emotional changes in their life. The learners were likely to experience strong feelings, more sensitive to social environment, more self-concious, think about right and wrong, seek to be independent, explore sexual identity, seek romantic relationships, and desire to develop strong social relationships (Australian Raising Children Network, 2016). Therefore, these changes were likely to be affected adversely by the stuttering condition during this stage of development than any other age group in the lifetime of an individual.

Nall (2012) noted that there are three types of stuttering; developmental, neurologic, and psychogenic stuttering. Developmental stuttering occurs in children as they develop their speech and language capabilities when the need to express themselves is greater than their verbal ability. This type of stuttering is usually outgrown. Approximately 20.0 % of children, however, do not outgrow this type of stuttering. Neurogenic stuttering, occurs when the brain is unable to coordinate the different components of the speech mechanism, including the nerves and muscles. Neurogenic stuttering occurs following a stroke or brain injury. Psychogenic stuttering originates in the region of the brain that directs thought and reasoning. This rare type of stuttering may affect people with mental illness or those who experience extreme psychological stress or anguish (Nall, 2012).

Hughes, Gabel, Irani and Schlagheck (2010) carried out a study to establish students' perceptions of the life effects of stuttering. An open-ended, written survey was administered to 146 university students who did not stutter to obtain their impressions

of the effects of stuttering on the lives of people who stutter (PWS). Participants first wrote about the general stuttering effects and then considered how their lives would be different if they stuttered. Both types of responses, while not qualitatively different, indicated that participants were more likely to focus on negative listener reactions and barriers to social, academic, and occupational success when they imagined themselves as PWS. In addition, Spillers (2011) noted that PWS experience dysfluency which leads to fearful, and anxiety-filled experience. Anxiety about speaking among PWS was as a result of anticipating having difficulty in speaking situations. Spillers further noted that anxiety was as a result of anticipating a negative reaction from a listener and wanting to avoid pain of embarrassment.

Kraaimaat, Martine, and Rien (2002) carried out a study to find out the presence of social anxiety in adults who stutter. This was done by administering the Inventory of Interpersonal Situations (IIS) test, a social anxiety inventory to a group of 89 people who stuttered and 131 people who did not stutter. Two components of social anxiety were measured by the IIS, the extent to which emotional tension or discomfort was perceived in social situations and frequency with which social responses were executed. Persons who stutter displayed significantly higher levels of emotional tension or discomfort in social situations. They also reported a significant lower frequency of social responses compared to non-stuttering peers. Nevertheless, 50 % of the scores of PWS fell within the range of a group of highly socially anxious psychiatric patients. It was concluded, that adults who stutter differed from adults who do not stutter as far as negative emotional experience of social situations (discomfort) and responses to them (frequency) are concerned. Such differences were not related to positive self-esteem. The differences in social anxiety of adults who do, and do not stutter might be the result of an inherent link between stuttering and social anxiety.

Secondly, it was concluded that there was a subgroup of adults who stuttered with relatively high social anxiety levels (Kraaimaat *et al.,* 2002). There was also evidence that PWS were more likely to suffer from anxiety than PWDS (Craig *et al.,* 2003; Blood & Blood, 2007).

Aslam (2013) observed that stuttering leads the individual to feel a range of negative effects such as frustrations after blockage and repetitions, embarrassment, self-stigma as a result of negative attitude from other people, making the person to withdraw from others. In addition, Aslam (2013) found out that those persons who stutter reported higher anxiety and feared to speak in a family set up. Long term stuttering may leave the person more vulnerable to become socially anxious as the person anticipates to stutter in any speaking situation.

Hughes *et al.* (2010) study was based on life effects of stuttering, Kraaimaat *et al.* (2002) study focused on social anxiety among PWS, whereas Aslam (2013) study focused on five effects of stuttering such as fear, frustrations, embarrassment, anxiety, and self-stigma. Kraaimaat *et al.* (2002) study did not focus on how social anxiety occurs among LWS and the extent to which social anxiety occurred was unknown. Secondly, Aslam (2013) study found out stuttering effects such as frustrations, embarrassment and self-stigma. The extent to which the stuttering effects occurred among young adolescent LWS in primary schools was unknown.

Hughes *et al.* (2010) study was related to the present study on stuttering effects. The present study was carried out in primary schools, unlike Hughes *et al.* (2010) who carried out the study in a university setting. Secondly, the present study was carried out on learners who stutter themselves unlike Hughes *et al.* (2010) whose study was

carried on non-stuttering LWS who assumed the stuttering condition, and hence the findings were based on perceptions rather than facts. Hughes *et al.* (2010) used an open-ended and written survey as instruments of data analysis while the present study employed closed ended questionnaire and interview schedule as instruments of data analysis. There was need to establish the extent to which stuttering effects occurred among young adolescent LWS. Secondly, the present study sought to find out how stuttering effects influenced educational achievement in terms of social interactions, classroom participation, vocational aspirations, and academic performance among LWS in primary schools in Kakamega County, unlike Kraaimaat *et al.* (2002) study which was a comparative study on social anxiety between PWS and PWDS.

The concept of educational achievement for learners who stutter refers to the ability of a learner to socially interact with others, participate in classroom activities, have aspirations about future vocation and perform well academically (Annie, Howard & Murray, 2006; Hollander, 2002; & Ritchie *et al.*, 2012). How stuttering effects influence each of these educational achievement elements among LWS was unknown. There was therefore need to carry out a study to determine how stuttering effects influenced educational achievement among learners who stutter.

Social interaction is the ability of two or more people to communicate or acknowledge one another and form relationships (Turner, 2010; Barkan, 2014). It is important in the formation of relationships; it influences social roles, status, and self-esteem; enhances learning and fosters the well-being of one another (Wickelgren, 2012). Davis, Howell, and Cooke (2007) carried out a study to establish the sociodynamic relationships between Children Who Stutter (CWS) and Children Who do not Stutter (CWDS) in England. The study used a sociometric scale to assess social

relationships between CWS and CWDS. The peer relationship between 16 CWS and 403 CWDS were examined. Results indicated that CWS were rejected and less popular compared to CWDS. Secondly, CWS were likely to be bullied and to seek help from teachers and other peers. Davis *et al.* (2007) study was carried out to establish the impact of stuttering on social interaction between CWS and CWDS. The study did not, however ascertain how stuttering effects, such as fear, anxiety, frustrations, embarrassment and self-stigma, influenced social interactions among LWS. There was therefore a need to carry out a study to determine how stuttering effects influenced social interactions among LWS. Secondly, Davis *et al.* (2007) study was carried out among children, unlike the present study which was carried out among young adolescent LWS.

The current study bears similarity with that of Davis *et al.* (2007) on the interaction between CWS and CWDS as it sought to determine the influence of stuttering effects on social interactions among LWS themselves. In this study was an important addition on social interactions of learners who stutter in regular primary schools. Davis *et al.* (2007) used a smaller population of 16 CWS. This study used a larger population of learners who stutter (N= 84 LWS), and a larger sample size (n= 76 LWS) to establish the effects of stuttering on social interaction, unlike Davis *et al.* (2007) who used a smaller population of 16 CWS. The bigger population in the present study made the findings more reliable for generalization. Furthermore, the present study used a rating scale type of questionnaire, unlike Davis *et al.* (2007) who used a sociometric scale. In addition, Davis *et al.* study was a comparative study unlike the present study which was a correlational study. Thus, the present study aimed at establishing how stuttering effects influenced social interactions among LWS rather than comparing the social dimensions between LWS and regular learners.

In Australia, research findings by Jaan (2011) indicated that stuttering has social consequences for preschoolers aged 3 and 4 years old. This was because some CWS avoided speaking during play as a result of negative peer reaction due to stuttering. For instance, peers reacted with confusion, interrupted, mocked, walked away or ignored what the pre-school child who stutter said. Jaan's findings focused on preschoolers who stutter while the current study aimed at determining how stuttering effects influence social interactions among adolescents learners in class six, seven and eight who stutter. The study was carried out in regular primary schools and not at pre-school level.

Davis *et al.* (2007) study was related to Jaan (2011) study with regard to how stuttering influences social interactions among PWS. Davis *et al.* (2007) was however, a comparative study between CWS and CWDS, whereas Jaan (2011) was carried out among preschoolers aged 3 and 4 years. In addition, both studies did not address important aspects of stuttering such as fear, anxiety, embarrassment, frustrations, and self-stigma as observed by Aslam (2013) and how they influenced social interactions among LWS. This necessitated the present study.

Participation entails being involved in something at a given time and place (Hollander, 2002). Weimer (2011) noted participation adds interest, engages the student, provides feedback to the teacher and encourages dialogue among learners. Study findings by Jaan (2011) carried out on four stuttering preschoolers in Australia indicated that stuttering limits the participation of a preschooler child. Such difficulties were encountered during activities such as leading peers in play and in resolving conflicts. The researcher concluded that stuttering had equal evocative impact on social interactions of preschoolers who stutter. This led to withdrawal,

loneliness, rejection, stigma and difficulty participating in group activities among pre-schoolers who stutter.

In South Africa, Klompas and Ross (2004) indicated that the majority of teachers and regular learners at school perceived stuttering as having an impact on the participation of LWS in school. They noted that people generally reacted negatively to LWS. In South Africa, Klompas and Ross (2004) indicated that the majority of teachers and regular learners at school perceived stuttering as having an impact on the participation of LWS in school. They noted that people generally reacted negatively to LWS.

Jaan (2011), as well as Klompas and Ross (2004) studies were related to participation among LWS. Jaan (2011) focused on the participation of pre-schoolers who stutter, whereas Klompas and Ross (2004) study observed that teachers and regular learners indicated that stuttering impacted on the participation of LWS while at school. Both studies, however did not determine how stuttering effects such as fear, anxiety, frustrations, embarrassment, and self-stigma influenced participation of LWS in classroom. Secondly, Jaan (2011) focused on pre-schoolers, impact of stuttering on young adolescents who stutter ws unknown. The present study focused on the influence of stuttering effects on classroom participation among young adolscents LWS.

The current study bears similarity to findings by Jaan (2011) with regard to participation, the present study examined classroom participation among LWS in school. Secondly, the study was carried out among young adolescent learners (aged between 12 to 15 years) in class six, seven and eight, unlike Jaan (2011) study that was carried out among young children aged 3 to 4 years. Thirdly, Jaan's study

involved a small population of four children who stutter, whereas the current study involved a larger population of respondents; 84 learners who stutter and 329 regular learners.

Fulya (2014) defined vocational aspirations as having a strong desire to pursue a certain job or career such as being a doctor, teacher, farmer, or an engineer. Vocational aspirations among learners are important as they influence attainment and hard work (Fulya, 2014). Fulya (2014) carried out a study in Turkey explored the fifth grade elementary school students' vocational aspiration and the factors affecting it. Sample size consisted of 115 students in 20 elementary public schools with which face-to-face interviews were conducted. Findings showed that engineering, medicine and teaching were the most preferred vocations by students. Boys were found to aspire to traditionally maculine occupations while girls aspired to traditionally female occupations. Parents seemed to be the most influential factor on students' vocational aspirations, followed by the favorite academic subject and social environment. On the other hand, vocational guidance activities were the least influential factor, which was not a surprise given that approximately 90% of the students indicated absence of vocational guidance activities. Based on the findings, improving the quality and quantity of the vocational guidance activities at schools is suggested.

Zhang, Saltukaroglu, Hough, and Kalinowski ((2009) carried out a study to assess the impact of stuttering on Persons Who Stutter (PWS) in various life aspects such as vocation, romance, daily activities, social life, family, and general lifestyle. The target population consisted of 91 university students, who answered questionnaire with 56 statements on a 7-point likert scale. Forty-four participants were randomly selected to

assume a stuttering identity and 47 respondents to assume fluent identity.

Zhang *et al.* (2009), the results indicated that there was a significant difference between fluent and stuttering persons. The significance difference between the groups was found in more than two thirds of items regarding employment, romance, daily activities, and in fewer than half of items regarding family, social life, and general life style ($p < 0.001$). The study concluded that social penalties associated with stuttering appeared to be apparent to fluent individuals, especially in areas of vocation, romance, and daily activities (Zhang *et al.*, 2009).

Both Fulya (2014) and Zhang *et al.* (2009) studies were related with regard to vocational aspirations among learners. Fulya (2014) study was based on vocational aspirations among regular learners. Secondly, key influential factors on students' vocational aspiration were parents, favourite academic subject, and social environment. The influence of other factors such as stuttering, however was not established. Zhang *et al.* (2009) study focused on how stuttering influenced the type of vocations among PWS unlike Fulya (2014) who focused on vocational aspirations among regular learners. Both studies, however did not determine how stuttering effects such as fear, anxiety, frustrations, embarrassment, and self-stigma influenced vocational aspirations among young adolescent LWS. The current study bears similarity to Zhang *et al.* (2009) with regard to the impact of stuttering on vocations. Zhang *et al.* (2009) study compared fluent and stuttering persons with regard to vocation, romance, daily activities, family, and social life. Zhang *et al.* (2009), found out that stuttering had impact on vocation of PWS but failed to address whether stuttering had an influence on vocational aspirations among PWS. The present study determined the influence of stuttering effects on vocational aspirations among

adolescent LWS in school. In view of the fact that data on vocational aspirations of LWS was limited, the present study is an important addition on stuttering in regular primary schools. Therefore, there was need to determine how stuttering effects such as anxiety, fear, embarrassment, frustrations, and self-stigma influenced vocational aspirations among young adolescent LWS.

Academic performance is the extent to which a learner achieves the educational goals in class. It is measured using examinations and continuous assessment tests (Annie *et al.,* 2006). Academic performance is important in fostering improvement, and shows the level of achievement in knowledge, skills, and experience of a learner (Farrington, Roderick, Allensworth, Nagaoka, Keyes, Johnson & Beechum, 2012). According to Stuttering Foundation (2015), there is no relationship between stuttering and Intelligence Quotient (IQ) of a person who stutters. According to Craig and Craig (2003), academic performance among learners who stutter was lower compared to regular learners. It was unknown whether stuttering effects such as anxiety, fear, frustrations, embarrassment, and self-stigma influenced academic performance among LWS. There was need to determine to what extent stuttering effects influence academic performance among LWS.

Rees and Sabia (2011) carried out a study to find out the influence of stuttering on academic performance in the USA. The data involved twenty six thousand students across USA. Seven percent of the respondents indicated they stuttered. Results indicated that stuttering was associated with lower scores on tests of reading and mathematics. In addition, stuttering was associated with a lower probability of graduating from high school and a lower probability of attending college. Butter and

Clare (2013) noted that LWS had scant interaction, spatial segregation, and limited encouragement while at the university in the USA.

Craig and Craig (2003) as well as Rees and Sabia (2011) focused on academic performance among LWS. Both studies did not determine how stuttering effects such as fear, frustrations, embarrassment, anxiety, and self-stigma influenced academic performance among LWS. Secondly, the study by Rees and Sabia revealed that stuttering was associated with poor academic performance in reading and mathematics only. The study did not determine whether poor performance was across various subjects the LWS was studying. Thirdly, Rees and Sabia's (2013) study was carried out among students in the university, however how stuttering affects academic performance among young adolscents in primary schools was not established. There was need to carry out a study to determine the extent to which stuttering effects influenced academic performance among LWS in primary schools.

The current study was related to the study findings by Rees and Sabia (2011) with regard to academic performance. The present study examined academic performance in five subjects among class six, seven and eight adolescent learners who stutter: Mathematics, English, Kiswahili, Science, and Social Studies. Rees and Sabia's measure on academic performance was restricted to only reading and mathematics, whereas the present study focused on academic performance in five subjects and overall performance in class. It determined the extent to which stuttering effects influenced academic performance among LWS in primary schools. The present study used correlation to determine influence of stuttering effects on academic performance among LWS in primary schools.

Klein and Hood (2004) indicated that PWS at the university experienced stuttering less handicapping than CWS at primary school level due to good social environment at university. In addition, Kenyan Basic Education Act (2003), Kenyan Vision 2030 noted the importance of primary education to any nation. Therefore, the present study was carried out in primary schools.

Ndung'u and Kinyua (2009) carried out a study on cultural perspectives on speech and language disorders in Kenya. The research used persons aged between 8 and 53 years. Instruments of data collection included observation schedule, and personal interviews. The study found out that in Kenyan communities there was a notable association between cultural beliefs and language and speech disorders. For instance, the Gikuyu community believed stuttering was caused by chameleons while the Ameru believed that stuttering was caused by spirits, and if a child laughs at a person who stutters, then he or she may develop stuttering as a punishment for laughing at disability. In the study, he noted that the social nature of communication is affected if a person stutters. Human beings are social and they spend much of their time together. They first learn how to communicate in a social set up for instance, with parents, siblings, relations, or friends. Socialization is adversely affected if one has a fluency speech disorder. A person with disfluency is often mishandled at home, in school, or in public places. Often the individual becomes withdrawn (Ndung'u & Kinyua, 2009).

The present study was related to the study findings by Ndung'u and Kinyua (2009). Both studies researched on speech and language disorders. The present study focused on stuttering, a fluency disorder, unlike Ndung'u and Kinyua (2009) who looked at speech and language impairement in general. Secondly, Ndung'u and Kinyua's (2009)

study focused on the socio-cultural perspectives of speech and language disoders and did not establish specifically how stuttering as a speech disorder influenced a person's life at school. Thirdly, Ndung'u and Kinyua (2009) used observation and interview schedules to collect data. The present study aimed at determining how stuttering effects influenced educational achievement among LWS in primary schools. The present study used questionnaire in addition to observation and interview schedules. Lastly, Ndung'u and Kinyua (2009) used content analysis for data analysis; the present study used means, multiple regression and thematic analysis of interviews, and observation schedules.

In Kenya, the former Western province had the highest number of persons with disabilities who experienced severe difficulties (28%) and it also had the highest number of school drop out rates (49%) of children with disabilities compared to the other seven former provinces (Kenya National Survey for Persons with Disability, 2008). The study was carried in the former Western province. According to Stuttering Foundation (2015) & Yairi (2005), the prevalence of persons who stutter, (PWS) is 1% in the World. Kenya with a population of 4,400,000 people is estimated to have a prevalence of 440,000 persons who stutter (PWS). Kakamega County is estimated to have the highest prevalence of PWS in the former Western province (16,606 PWS) out of which 4,400 are school going age children.

According to a baseline survey across the former Western province in EARC centers (2010-2013), Kakamega County had the highest number of Learners who Stutter LWS (138), followed by Vihiga (84), Bungoma (33), and Busia (10) in primary schools. Baseline survey (2014/2015) reports indicated only a few, 179 LWS were found in 20 schools across Kakamega County. LWS were also found to experience difficulties in social activities, class participation, and vocational aspirations. This necessitated a

study to be carried out in Kakamega County. Results of baseline survey across various EARCs in Western region are indicated in Table one.

Table 1: Results of Baseline Survey on Number of Learners who Stutter in Western Region (N= 265)

County/year	2010	2011	2012	2013	Total
Busia	02	03	01	04	10
Bungoma	13	09	07	04	33
Kakamega	33	32	39	34	138
Vihiga	13	13	31	27	84

Source: District/Sub-County Educational Assessment and Resource Centre Records across Four Counties, Western Region (2013).

Records from the 12 sub-county/district Educational Assessment and Resource Centres in Kakamega County, showed that there had been an increase in the assessment and placement of LWS in regular primary schools between 2010 to 2015, however records were not found between 2003 to 2009. Summary of the placement of LWS in primary schools per sub-county is shown in Table 2 (Records from 12 District Educational Assessment Centre, 2013).

Table 2: Assessment and Placement of Learners who Stutter in Primary Schools in Kakamega County (N= 138)

District (sub-county)/year	2010	2011	2012	2013	Total
Kakamega Central and Navokholo	4	5	1	5	**15**
Kakamega North	3	2	1	1	**07**
Kakamega South	0	1	5	1	**07**
Kakamega East	1	4	3	5	**13**
Lugari	7	2	5	3	**17**
Matete	8	5	6	3	**22**
Likuyani	-	-	4	2	**06**
Mumias and Matungu	0	8	7	8	**23**
Butere and Khwisero	10	5	7	6	**28**
Total	**33**	**32**	**39**	**34**	**138**

Source: Assessment Reports from District/Sub-County Education Offices, Kakamega County (2014); Educational Assessment and Resource Centre Reports'

From Table 2, it was evident that between the years 2010 to 2013, the 12 districts (sub-counties) within Kakamega County recorded a total of 138 LWS being assessed and placed in regular primary schools. From baseline survey carried out in schools in year 2014, reports indicated that LWS faced a number of challenges in school as a result of the stuttering condition. These include stigma from peers and teachers, rejection, withdrawal from others, inadequate participation in school activities, poor academic performance, and inadequate social interactions.

A baseline survey carried out by the researcher across regular primary schools in Kakamega County in January 2015 indicated there were 179 LWS in 20 primary schools in the county as indicated in Table three.

Table 3: Results of Baseline Survey Showing Number of Learners who Stutter per Class in Kakamega County in 20 Primary Schools with LWS in January 2015 (N= 179)

Class	Number of learners who stutter
Class nursery	0
One	19
Two	20
Three	22
Four	18
Five	16
Six	25
Seven	28
Eight	31
Total	**179**

A baseline survey carried out in 2015 across 20 primary schools revealed that most LWS performed below average (below 250 marks) in termly examinations. For example, LWS in class six, seven and eight performed poorly as summarized in Table four.

Table 4: Results of Baseline Survey on Academic Performance (2014)

Class	Number of learners who stutter below 250 marks f (%)	No. of regular learners below 250 marks	No. of LWS above 250 marks	No. of regular learners above 250 marks	Total LWS f (%)	Total Regular learners f (%)
Six	18 (21.43)	349 (15.17)	7 (8.33)	522 (22.69)	25 (29.76)	871 (37.85)
Seven	20 (23.81)	167 (7.26)	8 (9.52)	556 (24.16)	28 (33.33)	723 (31.42)
eight	21 (25.00)	269 (11.69)	10 (11.90)	438 (19.04)	31 (36.90)	707 (30.73)
Total	**59 (70.24%)**	**785 (34.12)**	**25 (29.76)**	**1516 (65.88)**	**84 (100)**	**2301 (100)**

Source: Records of Academic Performance in 20 schools, Kakamega County

The baseline survey further revealed 59 (70.24%) of LWS performed below average (below 250 marks out of possible 500 marks). Out of a total of 84 LWS in class six,

seven and eight, most LWS were found in the bottom quarter of the class in examinations. Compared to regular learners in class 6, 7 and eight who got below 250 marks were 785 (34.12%) These implied most LWS got below average mark (250) than the regular learners. This is indicated in Appendix XIV. The current study was carried out to determine if there was a relationship between stuttering effects and educational achievement among LWS in regular primary schools in Kakamega County, Kenya.

1.2 Statement of the Problem

The prevalence rate of PWS is 1% (74,000,000 people) in the world. Kenya is estimated to have 440, 000 PWS. Kakamega county is estimated to have 16, 606 PWS, out of which 4,400 are school going age children. According to a baseline survey in former Western province (2013) between the years 2010 to 2013, Kakamega County had the highest number of Learners who Stutter in the former Province, (179) who had been assessed and placed in regular schools. Secondly, most LWS performed below average in in respective classes across all the schools. For instance, 59 (70.24%) out of 76 LWS in classes six, seven and eight scored below the average mark (250) and were found in the last quarter during examinations. It was unknown why the academic performance was low among LWS as compared to regular learners in each class. In addition, it was unclear why LWS had difficulties in educational achievement in terms of inadequate social interaction, class participation, and vocational aspirations. Previous studies revealed stuttering had effects such as anxiety, self-stigma, fear, frustrations and embarrassment to the LWS while speaking. The extent to which these stuttering effects occurred among LWS was unknown. Secondly, how these stuttering effects influenced educational achievement in terms of social

interaction, class participation, vocational aspirations and academic performance among young adolescent LWS in Kenya was also unknown. Therefore, the current study was carried out to determine the influence of stuttering effects on educational achievement among young adolescent LWS in regular primary schools in Kakamega County, Kenya.

1.3 Purpose of the Study

The purpose of this study was to determine the influence of stuttering effects on educational achievement among young adolescent learners who stutter in regular primary schools in Kakamega County, Kenya.

1.4 Objectives

The objectives to this study were to;

i) Establish the extent to which stuttering effects occur among learners who stutter in primary schools in Kakamega County.

ii) Determine the influence of stuttering effects on social interactions among learners who stutter in primary schools.

iii) Determine the influence of stuttering effects on classroom participation among learners who stutter in primary schools.

iv) Establish the influence of stuttering effects on vocational aspirations among learners who stutter in primary schools.

v) Determine the extent to which stuttering effects influence academic performance among learners who stutter in primary schools.

1.5 Research Questions

The research questions to this study were;

i) To what extent do stuttering effects occur among learners who stutter in primary schools in Kakamega County?

ii) What is the influence of stuttering effects on social interactions among learners who stutter in primary schools?

iii) What is the influence of stuttering effects on classroom participation among learners who stutter in primary schools?

iv) What is the influence of stuttering effects on vocational aspirations of learners who stutter in primary schools?

v) To what extent do stuttering effects influence academic performance among learners who stutter in primary schools?

1.6 Assumptions of the Study

i) Class six, seven and eight learners were adolescents and experienced physical, emotional, cognitive and social changes.

ii) Both learners who stutter and regular learners have normal functional intelligence quotient on average. Stuttering does not affect intelligence quotient of a learner.

iii) Learners in class six, seven and eight had covered syllabus in their previous classes.

v) Both learners who stutter and regular learners are taught using same teaching-learning methods and resources are adequate in each school.

vi) All other variables are constant except stuttering effects.

1.7 Scope of the Study

The study was carried out in regular primary schools with LWS in 12 Sub-counties across Kakamega County, Kenya. The study focused on the influence of stuttering effects on the educational achievement in terms of social interaction, participation in classroom activities, vocational aspirations, and academic performance of learners who stutter. The influence of five stuttering effects were studied: fear, frustrations, embarrassment, anxiety and self-stigma on educational achievement determined. The study was carried out among young adolescent learners aged 12 to 15 years in class six, seven, and eight.

Class six, seven and eight learners were chosen because most learners in these classes were at early adolescence stage (12-15 years) experiencing physical, emotional, cognitive, social, and emotional changes in their life. Thus, they were likely to experience strong feelings, were more sensitive to the social environment, more self-concious, think about right and wrong, seek to be independent, explore sexual identity, seek romantic relationships and desire to develop strong social relationships (Australian Raising Children Network, 2016). Therefore, these changes were likely to be affected adversely by the stuttering condition during this stage of development than any other age group in the lifetime of an individual.

1.8 Limitations of Study

A questionnaire responded to by one participant was detected to have the floor and ceiling effect. The respondent seemed to have inflated responses to the questions by ticking responses towards one direction of the continuum of the rating scale questionnaire. The interview schedule and observation schedules

were administered to minimize the floor and ceiling effect, thus gave the researcher objective responses to some of the manipulated responses by the respondent.

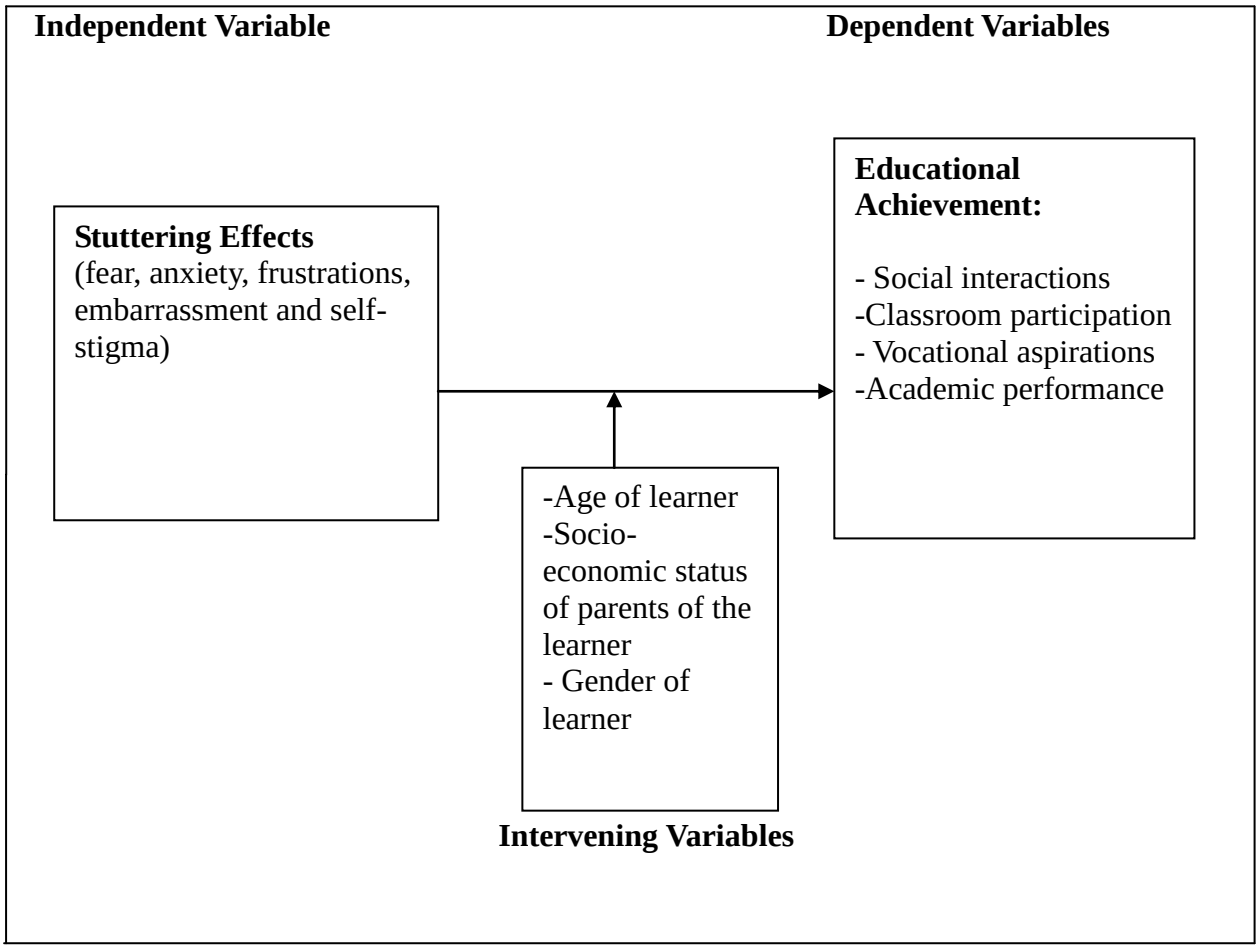
1.9 Significance of the Study

The study findings are significant as they might help teachers to understand how stuttering effects affected LWS in class participation, social interactions, vocational aspirations, and academic performance among LWS. Hence assist the teacher come up with coping stragies to build learners' confidence during the teaching-learning process. The study might assist learners who stutter to cope with stuttering effects through building confidence in situations where they seem frightened to speak. Secondly, the findings of the study are expected to enable LWS to develop coping strategies during various school activities such as social interaction and classroom participation. The study might enable LWS understand how stuttering effects negatively influence certain vocational aspirations.

The study might help regular learners to understand how to socialize and assist LWS in school activities. The study findings might assist regular learners to realize the need to involve LWS in classroom participation, through minimizing stuttering effects on the LWS during classroom participation activities. The study is significant to head teachers and teachers in helping them understand how stuttering effects influence classroom participation and academic performance among LWS. The study would be significant to parents of the child who stutter in helping them understand how stuttering affect child's educational achievement.

1.10 Conceptual Framework

The study was guided by a conceptual framework showing stuttering effects as independent variable, and educational achievement as dependent variable. The intervening variables consisted of age of LWS, gender of LWS, and socio-economic status of parents of the learner. The three variables were conceptualized in Figure 1.



Source: Own Conception

Figure 1: A Conceptual Framework Showing Influence of Stuttering Effects on Educational Achievement among Learners who Stutter.

From Figure 1, the independent variable consisted of stuttering effects. Stuttering consist of primary characteristics such as prolongation, repetition, interjections,

hesitations, and total blockage. These primary characteristics lead to secondary characteristics commonly referred to as stuttering effects such as anxiety, fear, embarrassment, self-stigma, and frustrations among LWS in activities which require the learner to speak (Aslam, 2013). This view was shared by Craig *et al.* (2003), who noted that there was a high association between stuttering and anxiety levels, fear, frustrations, and embarrassment. Craig *et al.* (2003) further observed that LWS had higher levels of unstable emotional states such as anxiety, self-stigma, and fear compared to LWDS. Stuttering makes LWS to have negative stereotype towards themselves, and negative attitude from peers and teachers towards LWS. This view was shared by Mayo and Mayo (2012). These in turn interfere with quality of life of PWS (Zhang *et al.*, 2009).

The dependent variable consisted of educational achievement which comprised of social interactions, classroom participation, vocational aspirations and academic performance among LWS.

Intervening variables to this study consisted of age of LWS, gender of learner and socio-economic status of parents of the child. Davis *et al.* (2007), noted that the socio-economic status of the parent may affect the child's achievement in school. Therefore, the intervening variables were controlled statistically through multiple regressions and partial correlations.

1.11 Operational Definition of Terms

Academic Performance - refers to extent to which a learner achieves the educational goals in class, measured using examinations and continuous assessment tests.

Anxiety - a feeling of unease or worry about stuttering one anticipates to happen.

Class participation - refers to the involvement of learners in class activities.

Educational Achievement - refers to being able to socially interact well, participate in class activities, perform academically, and have vocational aspirations about future career.

Embarrassment to speak – a feeling of shame to speak as a result of stuttering.

Fear to speak - refers to being afraid to speak caused by negative reactions from other learners and teachers due to inability to speak fluently.

Frustrations to speak- a feeling of being annoyed or disappointed as a result of inability to speak fluently.

Gender- refers to a learner being either male or female.

Home-maker- refers to a mother who takes care of her family at home, but has no formal employment. Her source of livelihood is farming and small scale business.

Influence - refers to the impact of the stuttering condition on the learner.

Inter-rater- refers to a researcher assistant who assists researcher in recording observations during observation sessions.

Learner Who Stutters- a person at in primary school who experiences disfluency as a result of lack of flow of speech.

Self-stigma - refers to having a negative feeling of discrimination against oneself (LWS) as a result of internalizing constant discrimination and isolation by others due to inability to speak fluently

Speech Difficulty - refers to fluency disorders, articulation disorders and voice disorders. Also referred to as speech impairment.

Stigma - refers to having a negative feeling of discrimination against learners who stutter as a result of inability to speak fluently.

Stuttering - refers to a speech difficulty characterized by difficulties in flow of

speech such as prolongations, hesitations, interjections, total blockage.

Stuttering Effects - refers to negative impact learners who stutter encounter as a result of stuttering. Such as self-stigma, frustrations, anxiety, embarrassment while speaking and fear to speak while at school.

Social Interactions - refer to the learner's interaction and formation of relationships with others in class and during co-curricular activities.

Socio-economic Status of Parents of the Learner- refers to occupation of the mother, occupation of father, level of education of mother, and level of education of father.

Vocational Aspirations- refer to the ambitions of a learner about future career and job placement opportunities.

Western Kenya region- refers to former western province of Kenya. It currently consists of four counties namely, Kakamega, bungoma, busia and Vihiga.

Young Adolescent - refers to a child aged between 11 to 16 years.

CHAPTER TWO

LITERATUREREVIEW

2.1 Stuttering Effects among Learners who Stutter

Spillers (2011) observed that there are three classic core stuttering behaviors are part word repetitions, prolongations, and blocks. Others include; interjections and hesitations (Ogutu, 2005). Part word repetitions means the person repeats a syllable or small part of a word rather than repeating the entire word (such as wa-wa-water). Prolongations involve holding on to a sound, such as "sssssalt." Prolongations have audible sound, as opposed to blocks, which are usually inaudible (Spiller, 2011 & Saidie, 2011). Blocks are sometimes called "silent posturing" because during the block when no sound comes out, the person usually has their mouth set for the sound that they want to say. All three of these behaviors are considered "intra-morphic" or within word. They disrupt the integrity of a word (Rind & Rind, 2008).

Persons Who Stutter (PWS) knows what they want to say, they have their message together and have the word ready. Stuttering dysfluencies happen because something has gone temporarily wrong with the connection between the brain and the speech muscles. The PWS cannot move from one sound to the next freely and smoothly (Spillers, 2011).

In the USA, Scott (2009) observed the following among Children Who Stutter (CWS), “At one extreme is the child who is unconcerned and happy to participate because he doesn’t have any negative feelings associated with talking. At the other extreme is the child who will cry and refuse to talk as a result of stuttering effects such that the child feels frustrated, anxious, embarrassed, or even ashamed**”.** Anxiety

may increase if other students around them answer the teacher's questions with no problem or hesitation (Scott, 2009).

Rind and Rind (2008) in the U.S.A indicated the following warning symptoms of stuttering in the classroom: repetition of the first syllable or letter of words, stretching out sounds, forcing words to come out, blocked airflow while answering questions in class, tremors and refraining from participating in the classroom. They further noted that a child who experiences dysfluency frequently finds himself or herself at a serious disadvantage at home and at school during play. Often teachers face a multiplicity of problems in dealing with such learners because they are not experts in every area of the child's development.

Persons Who Stutter are often stigmatized by society. They are unfairly stereotyped into a group which is often believed to be less intelligent or capable than the average individual (Blood & Blood, 2003). As a result, PWS often have an impaired self-image, as well as negative attitudes and feelings in regard to their ability to communicate. This resulted in self-stigma (Blood & Blood, 2003).

Adolescents and young adults who stutter usually deal with anxiety which can increase stuttering behavior (Davis *et al.,* 2007). Stuttering has a negative social effect. It is important for speech and language pathologists to be fully informed about challenges that PWS face due to their dysfluencies (Davis *et al.*, 2007). The extent to which anxiety occurs among LWS in Kakamega County was unknown.

Lesser (2011) noted that LWS in England faced difficulties such as blockage of speech when speaking fast, difficulties in articulation of syllables, words, and sentences. She further noted that stress can worsen the speech disorder due to constant fear. She also observed that having to speak in front of a crowd on a microphone was

the worst as the child may have total blockage, hence unable to speak any word.

Hughes *et al.* (2010) carried out a study in the USA to establish students' perceptions of the life effects of stuttering. An open-ended, written survey was administered to 146 university students who did not stutter to obtain their impressions of the effects of stuttering on the lives of people who stutter (PWS). Participants first wrote about the general stuttering effects and then considered how their lives would be different if they stuttered. Both types of responses, while not qualitatively different, indicated that participants were more likely to focus on negative listener reactions and barriers to social, academic, and occupational success when they imagined themselves as PWS. In addition, Spillers (2011) noted that Persons Who Stutter (PWS) experience dysfluency which leads to fearful, and anxiety-filled experience. Among PWS, anxiety about speaking was as a result of anticipating difficulty in speaking. He further noted that anxiety was as a result of anticipating a negative reaction from a listener, and wanting to avoid the pain of embarrassment.

Kraaimaat, Martine, and Rien (2002) sought to establish the presence of social anxiety in adults who stutter. This was done by administering the Inventory of Interpersonal Situations (IIS) test, a social anxiety inventory to a group of 89 people who stuttered and 131 people who did not stutter. Two components of social anxiety were measured by the ISS: the extent to which emotional tension or discomfort was perceived in social situations and frequency with which social responses were executed. Persons who stutter displayed significantly higher levels of emotional tension or discomfort in social situations. They also reported a significant lower frequency of social responses compared to non-stuttering peers. Nevertheless, 50.0% of the scores of PWS fell within the range of a group of highly socially anxious psychiatric patients. It was

concluded, that adults who stutter differ from adults who do not stutter as far as negative emotional experience of social situations such as discomfort and frequency of responses to them are concerned. Such differences were not related to positive self-esteem. The differences in social anxiety of adults who do and do not stutter might be the result of an inherent link between stuttering and social anxiety. Secondly, it was concluded that there was a subgroup of adults who stuttered with relatively high social anxiety levels (Kraaimaat *et al.,* 2002). There was also evidence that PWS were more likely to suffer from anxiety (Craig *et al.,* 2003; Blood *et al.,* 2007).

According to Aslam (2013) stuttering led the individual to feel a range of negative effects such as frustrations after blockage and repetitions, embarrassment, self stigma as a result of negative attitude from other people, making the person to withdraw from others. In addition, Aslam (2013) found out that those persons who stutter reported higher anxiety and feared to speak in a family set up. Long term stuttering may leave the person more vulnerable to become socially anxious as the person anticipates to stutter in any speaking situation.

Ogutu (2005) identified the following problems experienced by CWS in Kenya: repeating sound in words, prolongation of sound in words, hesitation between words, tendency to avoid words that contain sounds that the child cannot pronounce with ease. He further asserted that CWS accompany pronunciation with unusual facial expressions, need more time to pronounce a word, tend to stutter more when angry, excited, speaking to a person with authority or when under pressure as a result of anxiety to speak. Ogutu's report was not an empirical research on stuttering. Hence there was need to carry out an empirical study on stuttering in Kenya.

Hughes *et al.* (2010) study focused on life effects of stuttering, Kraaimaat *et al*. (2002) looked at social anxiety among PWS while Aslam (2013), focused on negative stuttering effects among PWS. Both studies did not establish the extent to which various stuttering effects occurred. The studies did not focus on how the stuttering effects may affect a LWS in the school set up. Secondly, the above researchers did not establish how stuttering effects influence various educational achievement elements such as social interactions, classroom participation, vocational aspirations and academic performance among LWS.

A review of literature on stuttering indicated a few empirical researches had been carried out in Africa and hardly any in Kenya. The extent to which the stuttering effects occurred among LWS was unknown. Secondly, there were minimal studies that had been carried out to determine the influence of stuttering effects on on educational achievement. The study was carried out to determine influence of stuttering effects on educational achievement among learners who stutter in regular primary schools in Kenya.

2.2 Influence of Stuttering Effects on Social Interactions among LWS

Social interaction is an important component of educational achievement. It refers to the ability of two or more people to communicate or acknowledge one another and form relationships (Turner, 2010; Barkan, 2014). It is important in the formation of relationships, interaction, influences social roles, status and fosters wellbeing of one another (Wickelgren, 2012). Sorin-peters (2003), observed that speaking fluently and effectively to others was a highly valued skill that had many ramifications. Having the ability to speak with fluency and its effect will likely enhance life opportunities,

whereas dysfluency and inarticulacy were likely to confer a disadvantage.

Study findings by Langevin and Hagler (2004) showed that negative social consequences begin early for LWS. For example, in primary schools the children are perceived negatively by their non-stuttering peers and may be more susceptible to bullying and have difficulty establishing friendships with peers than CWDS (Davis *et al.*, 2007). Similarly, Mayo and Mayo (2010) suggested that many PWS in the USA viewed their stuttering as an obstacle to forming relationships and often made it difficult for them to talk to members of the opposite sex.

In the USA, findings by Schneider (2005) observed that PWS appear to be stereotyped as quiet, shy, guarded, anxious, and nervous individuals who are nevertheless friendly, intelligent and co-operative. In addition, PWS experienced negative consequences in terms of intimate and social relations (Gabel, Tellis & Althouse, 2004). Subsequent researchers found that adolescents who stutter were more likely to be teased or bullied at school (Langevin & Hagler, 2004; Blood and Blood, 2004; Blood & Blood, 2007). There was also evidence that they were more likely to suffer from anxiety (Craig *et al.*, 2003; Blood & Blood., 2007). In addition, Gabel *et al.* (2004) indicated that stuttering profoundly affected individual's interpersonal relationships. In fact, the way in which PWS cope with their communication disorder and develop interpersonal relationships depends strongly on the way listeners who do not stutter react to them.

Many PWS avoid social interaction as much as possible, which may reduce their chances to find romantic partners and friends. It was very reasonable for PWS to avoid both intimate and general relationships, since research showed that the majority

of people who do not find those who stutter to be acceptable romantic partners or friends (Davis *et al.*, 2007). The present study was carried out among young adolescents who do not need romantic partners, but need social ineractions from friends. There was need to determine how stuttering effects influenced social interactions among young adolscents who stutter.

Davis *et al.* (2007), carried out a study to establish the sociodynamic relationships between CWS and their non-stuttering classmates in England. The study used a sociometric scale to assess CWS in classroom groups with fluent peers. The peer relationship between 16 CWS and their 403 CWDS was examined. Results indicated that CWS were rejected significantly more often than their peers. Secondly, CWS were less likely to be popular. When compared to CWDS, the CWS were likely to be bullied and seek help from teachers and non-stuttering peers (Davis *et al.*, 2007).

Beilby, Byrnes, Meagher, and Yaruss (2013) carried out a study in Australia on the impact of stuttering disorder on the perceived quality of life with emphasis on the individual's relationship with their partner or spouse. The purpose of the study was to investigate what personal experiences exist for both members of a couple of adults who stutter and their fluent life partner when one member of the couple stutters. The study also aimed at examining whether the partners have different experiences with respect to the impact of stuttering on their lives. A mixed method research design was used. Participants (adults who stutter and their fluent life partners) each completed one semi-structured qualitative interview and two questionnaires: the Overall Assessment of Speakers' Experience of Stuttering (OASES), and the Medical Short Form 36 (SF-36). Interviews were analyzed qualitatively and significant themes evaluated. Quantitative results of the OASES and SF-36 were analyzed, and scores

correlated to determine the strength of any clinically significant relationships.

Beilby *et al.* (2013), results indicated that people who stutter and their fluent partners reported similar experiences in reactions to stuttering and perceived difficulties in communication. There was no relationship between the two groups in perceived impact on quality of life. Qualitative results showed that the participants shared life experiences including reactions to stuttering, treatment undertaken and support. Such findings lend support to a broad-based clinical programme for adults who stutter that includes the fluent partner as an agent of change in their treatment. Findings also support the utilization of qualitative and quantitative research techniques to elucidate relevant psychosocial life themes and experiences for those who live with a stutter.

Yaruss and Quesal (2004) carried out a study to find out the attitude of partners in dating a PWS at the university. The study population consisted of students who stutter and other regular students at the university. The age range of the selected students was between 18-25 years old. Findings indicated that most respondents indicated they would not date a PWS. In addition, it was found out that stuttering was associated with negative attitudes towards communication, the degree to which PWS are able to participate in society, and negative responses from listeners. In view of the fact that PWS have a problem with dating partners, the present study found out the influence of stuttering effects on social interactions of younger adolescent LWS as compared to Yaruss and Quesal (2004) who carried out the researcher on adults aged 18-24 years. In view of the fact that there is limited literature on influence of stuttering effects on social interactions of LWS, the present study was done in primary schools.

In Australia, research findings by Jaan (2011) found that stuttering had social consequences for preschoolers aged 3 and 4 years old. Study findings by Jaan (2011)

on four stuttering preschoolers in Australia indicated that stuttering limits the participation of a preschooler child in social activities. Such difficulties were encountered during activities such as leading peers in play and in resolving conflicts. The researcher concluded that stuttering has equal evocative impact on social interactions of preschoolers who stutter. CWS had difficulties in leading peers in play and experienced severe difficulties in participating in play. This led to withdrawal, loneliness, rejection, stigma and difficulty in contributing to group discussion. These was because some CWS avoided speaking during play due to negative peer reaction to stuttering. For example, peers reacted with confusion, or they interrupted, mocked, walked away or ignored what the pre-school LWS said.

Spiller (2011) observed that many Persons Who Stutter (PWS) in England have a self-concept that revolves around their stuttering. PWS may have experienced a number of negative and disapproving reactions to their stuttering. The person may internalize these reactions and begin to believe that stuttering is socially unacceptable behavior and therefore they too are unacceptable (Spiller, 2011).

Blood and Blood (2004) carried out a study in USA to examine the perceived communicative competence, self-esteem, and vulnerability to bullying of 53 adolescents who stutter and 53 adolescents who do not stutter. Adolescents who stutter were at a significantly higher risk of experiencing bullying behavior (43%) than were adolescents who do not stutter (11%). The majority of adolescents who stutter (57%) rated themselves as having poor communicative competence and as a result feared speaking situations, were embarrassed and frustrated. In contrast, only 13% of the adolescents who do not stutter rated themselves as having poor communicative competence. Seventy-two percent of adolescents who stutter scored

within 1 standard deviation from the mean on a standardized measure of self-esteem, which is indicative of positive self-esteem. Students with low self-esteem and poor confidence in their communicative competence were more likely to be victimized by bullies.

Studies by Beilby *et al.* (2013), Davis et al. (2013), and Jaan (2011) were related with regard to how stuttering influenced social interactions. Davis *et al*. (2007) focused on social interaction among adult PWS, whereas Jaan (2011) found that stuttering had social consequences for preschoolers aged 3 and 4 years old. Davis *et al*. (2007) did not focus on social interaction in the school set up among children. Jaan's (2011) study was carried out on preschooler children who stutter. Based on review of the present study, how stuttering effects influenced social interactions among young adolscents was unknown. Mayo and Mayo (2010) focused on how stuttering impacted on the formation of relationships. Yaruss and Quesal's (2004) study was carried out to find out the attitude of partners dating PWS at university aged 18 to 25 years. Attitude is a key social factor in any social interaction. Yaruss and Quesal (2004) carried out their study among mature adolescents who stutter aged 18-25 years in the university. How stuttering influences social interactions among young adolscents who stutter in primary schools was unknown. Spiller (2011) focused on how stuttering influenced the self-concept of PWS. Blood and blood (2004) study compared communicative competence, self-esteem, and vulnerability to bullying between LWS and learners who do not stutter. The study did not examine the relationship between stuttering and bullying, an anti-social activity. Therefore, there was need to determine how stuttering effects such as fear, anxiety, frustrations, embarrassment, and self-stigma influenced social interaction among young adolescent LWS.

The current study bears similarity with Davis et al (2007) on relationships between CWS and CWDS. The present study however, sought to determine influence of stuttering effects on social interactions among adolescent LWS; unlike Davis *et al.* (2007) study which was a comparative study on social interactions between learners who stutter and regular learners. Secondly, the present study used five point rating scale type of questionnaire and an interview schedule to determine influence of stuttering effects on social interaction, unlike Davis *et al.* (2007), who used a sociometric scale. In addition, in view of the fact that data on LWS is limited; this study is an important addition on social interactions between learners who stutter and regular learners in primary schools.

Beilby *et al.* (2013) study did not establish what stuttering aspects such as stuttering effects influenced social relationships among PWS and their fluent partners. Secondly, the study did not establish how the stuttering impacted on the social interaction on PWS themselves. Thirdly, Beilby *et al.* (2013) study was carried out on adults. How stuttering influenced social relations among young adolescents was unknown. There was need to carry out a study to determine influence of stuttering effects on social interactions among LWS. The present study found out how stuttering effects such as fear, anxiety, frustrations, embarssment, and self-stigma influenced social interactions among LWS, unlike Beily *et al.* (2013) study that focused on relationships among adult couples. Secondly, Beilby *et al.* (2013) study used mixed method research design; whereas the present study used correlational and descriptive survey design to determine the influence of stuttering effects on social interactions among LWS. Both studies used questionnaires, the present study in addition used observation schedules to establish the impact of stuttering on social interactions, an element of educational achievement.

A review of literature indicated that there was hardly any empirical study carried out in Africa and Kenya in particular on social interactions among learners who stutter. Therefore, the current study added data and literature on influence of stuttering effects on social interactions, an element of educational achievement among LWS in primary schools.

2.3. Influence of Stuttering Effects on Classroom Participation among Young Adolescent Learners who Stutter

Participation entails being involved in something at a given time and place (Hollander, 2002). Weimer (2011) noted participation adds interest, engages the student, provides feedback to the teacher and encourages dialogue among learners. Study findings by Jaan (2011) on four stuttering learners in pre-schools in Australia indicated that stuttering limits the participation of a preschooler child in social activities. Such difficulties were encountered during activities such as leading peers in play and in resolving conflicts. The researcher concluded that stuttering has equal evocative impact on social interactions of preschoolers who stutter. CWS had difficulties in leading peers in play and experienced severe difficulties in participating in play. This led to withdrawal, loneliness, rejection, stigma and difficulty in contributing to group discussion. The current study bear similarity to findings by Jaan (2011) with regard to participation, the present study examined participation with regard to adolescents in class six, seven and eight. Unlike Jaan (2011) who focused on participation of children in pre-school.

Hill (2005) noted that stuttering had a significant impact on the child's place in the classroom and relationship with the teacher. The main concern with teachers regarding children who stutter was the child's participation. Children were reluctant to

engage in conversation with fellow students and participate in classroom tasks such as reading texts aloud.

Yaruss (2010) observed that stuttering affects many aspects of a person's life. People who stutter reported they experienced negative reactions to stuttering, difficulty communicating in key situations, diminished satisfaction with life, and a reduced ability to achieve their goals in life. Unfortunately, most treatment outcomes focused on changes in the observable characteristics of stuttering, with significantly fewer studies examining the broader consequences of stuttering. The paper proposed that evaluation of stuttering treatment outcomes could be enhanced through the assessment of the impact of stuttering on a speaker's quality of life. A means of assessing quality of life was described, based on the Overall Assessment of the Speaker's Experience of Stuttering (OASES). The OASES is a multi-dimensional assessment instrument built upon the World Health Organization's *International Classification of Functioning, Disability, and Health.* One section of the OASES was designed to assess specific aspects of quality of life in individuals who stutter. Preliminary data found out those individuals who stutter reported an adverse impact of stuttering on their quality of life and that quality of life could improve following treatment for stuttering. The study recommended that future stuttering treatment focus directly on the broader consequence of stuttering on quality of life. One such consequence is on classroom participation. Thus, the present study sought to determine influence of stuttering effects on classroom participation, which was an important aspect of educational achievement.

In South Africa, Klompas, and Ross (2004) indicated that the majority of teachers and regular learners at school perceived stuttering impacted on participation of learners

who stutter at school. Findings of their study indicated that although their stuttering was not perceived to adversely influence their ability to establish friendships,teachers and regular learners generally reacted negatively to stuttering of LWS while in class. This made the LWS to be frustrated and fear to ask and answer questions.

Mkala (2013) carried out a study on challenges facing students with speech-impairements in classroom interaction in Tanzania. The study was carried out on 13 students with speech-impairement using a semi-structured interview. The study employed purposive sampling technique to select students with speech-impairment. Findings of the interview revealed that many students with speech impairement did not participate well in classroom learning activities because they were afraid of being laughed at by their classmates when speaking. In addition, findings revealed that a few students with speech-impairement were active in classroom discussions. Teachers reported that they mostly ignored speech-impaired students because they took more time in answering or asking a question. Almost a half of speech impaired students reported they could not participate in whole classroom discussions unless asked or prompted by the teacher. Only three out of 13 speech-impaired students responded in agreement they would volunteer to participate in class. This represented 30.7% of speech-impaired students. A majority of such students (69.3%) noted they would not volunteer to participate in class discussions.

Studies by Jaan (2011), Yaruss (2010), Hill (2005), Klompas and Ross (2004) focused on how stuttering influenced participation. Jaan's (2011), study focused on participation among preschoolers aged 3 and 4 years in social activities among LWS. Whereas Yaruss' (2010) study focused on the assessment of the impact of stuttering on quality of life of PWS. The study did not focus on which specific aspects of quality

of life stuttering impacted. Secondly, Yaruss (2010) study used OASES to assess the impact of stuttering. The present study used questionnaire, observation schedule, and interview schedule to determine the influence of stuttering effects on classroom participation among LWS. The use of 3 research instruments made the results more valid. The findings of Klompas and Ross (2004) are related to other researchers' works with regard to participation. Klompas and Ross (2004) focused on participation in general, how stuttering impacted on participation in class was unknown. Both studies did not determine how stuttering influenced participation of LWS in a classroom. There was need to determine how stuttering effects influenced classroom participation among young adolescent LWS in primary schools.

Mkala's (2013) study was related to the present study in terms of challenges speech impaired students faced in classroom participation. The study used a small sample size of 13 speech-impaired students; unlike the present study which used a large sample size of 76 LWS. Secondly, Mkala's study was carried out on students with speech-impairement which was a bigger category of students with special needs, thus the findings were not specific on which group of speech difficulty faced challenges in classroom, unlike the present study which was carried out on learners who stutter. Third, Mkala's study used semi-structured interviews to collect views from speech-impaired students and teachers; unlike the present study which used questionnaire, interview schedule and observation schedule; hence the present study's findings were reliable and more valid due to triangulation of research instruments made the findings authetic. Mkala's study used a descriptive design; unlike the present study which used both descriptive survey and correlational designs. The use of the two designs increased the reliability of the research.

A review of literature indicated that there was hardly any empirical research carried out in Kenya on the influence of stuttering effects on classroom participation among learners who stutter. This necessitated the current study to determine the influence of stuttering effects on classroom participation, a key element of educational achievement among young adolescent learners who stutter in regular primary schools in Kakamega County, Kenya.

2.4 Influence of Stuttering Effects on Vocational Aspirations among LWS

Fulya (2014) defined vocational aspirations as having a strong desire to pursue a certain job or career such as being a doctor, teacher, farmer, and an engineer. Vocational aspirations are important as they influence attainment and hard work among learners (Fulya, 2014).

Fulya (2014) carried out a study in Turkey to explore the fifth grade elementary school students' vocational aspirations and the factors affecting it. The sample consisted of 115 students in 20 elementary public schools with which face-to-face interviews were conducted. The findings showed that engineering, medical doctor, and school teachers were the most frequently mentioned three vocations to which students aspired. Boys were found to aspire to traditionally-masculine occupations; girls aspired to traditionally-female occupations. Parents seemed to be the most influential factor on students' vocational aspiration, followed by the favorite academic subject and social environment. On the other hand, vocational guidance activities were the least influential factor, which was not a surprise given that approximately 90% of the students indicated absence of vocational guidance activities. Based on the findings, improving the quality and quantity of the vocational guidance activities at schools is suggested. One key factor such as disability was not studied, the present

study sought to determine how stuttering effects influenced vocational aspirations among young adolescent LWS.

Zhang, Saltuklaroglu, Hough, and Kalinowski (2009), carried out a study to assess the impact of stuttering on various aspects of life. The study used a questionnaire in which fluent individuals were asked to assume the mindset of Persons Who Stutter (PWS) in various life aspects, such as vocation, romance, daily activities, social life, family and general lifestyle. The perceived impact of stuttering through the eyes of persons who do not stutter was supposed to reflect respondents' abilities to impart 'theory of mind' in addressing social penalties related to stuttering. The target population consisted of ninety-one university students, who answered a questionnaire containing 56 statements on a 7-point likert scale. Forty-four participants (mean age = 20.4, SD = 4.4) were randomly selected to assume a stuttering identity and 47 respondents (mean age = 20.5, Standard Deviation = 3.1) to assume their normal fluent identity.

Further, results indicated that there were significant differences between groups that were found in more than two thirds of items regarding employment, romance, and daily activities, and in fewer than half of items regarding family, social life, and general life style ($p < 0.001$). Zhang *et al*. (2009) study concluded that the social penalties associated with stuttering appeared to be apparent to fluent individuals, especially in areas of vocation, romance, and daily activities, suggesting that non-stuttering individuals, when assuming the role of PWS, were capable of at least temporarily feeling the negative impact of stuttering (Zhang *et al.,* 2009). How stuttering effects influenced educational achievement in terms of vocational aspirations among LWS in primary schools was unknown.

Gabel, Blood, Tellis and Althouse (2004) carried out a study to establish role entrapment among people who stutter in careers. The purpose of this study was to explore whether people who stutter experience role entrapment in the form of vocational stereotyping. To accomplish this, 385 university students reported their perceptions of appropriate career choices for people who stutter. Direct survey procedures, utilizing the newly developed *Vocational Advice Scale (VAS)* were used in this study. Comparisons for the main effect of speaker status (person who stutters and person who does not stutter) were conducted using a one-way analysis of variance (ANOVA). Results of this analysis suggested that the university students reported an overall perception that stuttering affected career opportunities and that 20 careers were judged to be inappropriate choices for people who stutter. Conversely, 23 careers were judged to be appropriate choices for people who stutter. Findings of this study provided an initial data that supports that people who stutter may suffer from role entrapment related to vocational choice.

The present study was similar to Gabel *et al.* (2004) with regard to role entrapment in career choice towards persons who stutter. The present study examined the influence of stuttering effects on vocational aspirations among LWS in regular primary schools, unlike Gabel *et al*. (2004) study which focused on role-entrapment at work place among PWS. Gabel *et al*'s (2004) study used a comparative design; the present study used correlational design to find out the effects of stuttering on vocational aspirations among LWS. Gabel *et al.* study used analysis of variance (ANOVA) for data analysis while the present study used multiple regressions to find out how each effect of stuttering influenced each component of educational achievement among LWS. Unlike Gabel *et al.* (2004) study that used Vocational Advice Scale (VAS) for data collection, the present study used rating scale questionnaire and interview schedule as

instruments for data collection. In addition, the study by Gabel *et al.* (2004) that was carried out on non-stuttering individuals on which careers were appropriate and inappropriate for PWS, the present study was carried out among LWS themselves; who were the primary respondents. The present study was more factual and valid because it was carried out among LWS themselves, unlike Gabel *et al.* (2004) study which was based on perceptions of non-stuttering individuals.

Gabel, Hughes and Daniels (2008) carried out a study in USA on the effects of stuttering severity and therapy involvement on role entrapment of PWS. The purpose of the study was to examine whether a group of university students would report role entrapment of PWS in form of occupational stereotyping. The sample size involved was 260 students who completed the Vocational Advice Scale (VAS). Results suggested that stuttering severity and the level of therapy involvement did not appear to alter the judges' reports for all of the careers except for the career of speech therapist. Findings suggested that university students reported that 16 of the careers listed on the VAS were appropriate choices for PWS and were less certain about advising for 27 other careers. Thus, findings from this study do not support the notion that stuttering leads to role entrapment in the form of vocational stereotyping and variations in therapy involvement or stuttering severity do not change perceptions of role entrapment.

McAllister, Collier and Shepstone (2013) carried out a study in Britain to determine the impact of stuttering on educational and employment outcomes when these other factors were controlled. Data was analyzed from the National Child Development Study (NCDS), a British birth cohort study that has followed a group of over 18,500 people born in 1958 from birth and throughout life. It has collected data from cohort

members as well as their parents, teachers, and doctors covering topics as diverse as health and development, cognitive abilities, socio-economic circumstances, education, employment, and relationships. When the members were 7, 11 and 16 years-old, their parents were asked to say whether their child stuttered. By the time they were 16 years, 217 indicated they stuttered. Educational achievement and employment outcomes for PWS were compared with those who do not stutter of the same age who took part in the study.

The employment analyses investigated the impact of stuttering on the likelihood of being unemployed prior to age 23, pay at 23 and 50, and social class of occupation at 23 and 50. In all the analyses the researcher determined whether there was an association between stuttering and the outcome variable, and then looked at what happened when we controlled for the other factors. This second 'multivariate' analysis provided a more valid assessment of the impact of stuttering on the outcomes (McAllister *et al.,* 2013).

Findings by McAllister *et al.* (2013) indicated there was a limited amount of evidence that adolescent stuttering might have a negative impact on later employment outcomes. Those reported to stutter in adolescence were not significantly more likely than controls to experience unemployment lasting a month or longer at the start of their working lives, nor did they earn significantly less at 23 or 50, or have a greater likelihood of being in a lower-status occupation at 23. But they were more likely to be in an occupation in a lower socio-economic class at 50. This may arise because of discrimination on the part of employers. Alternatively, it may be the result of the use of avoidance on the part of those who stutter. Many occupations with higher socio-economic status (professional and managerial posts) required, or were perceived to

require, good verbal communication abilities. PWS may avoid such jobs through fear that they will stand no chance of being offered such work or that their stuttering might prevent them from carrying out the role effectively. They may instead seek occupations that are lower in socio-economic status, which require less talking in order to avoid embarrassment and frustrations at work place (McAllister *et al.*, 2013).

Klein and Hood (2004) carried out a study to examine the impact of stuttering on job performance and employability. The method involved administration of a 17-item survey that was completed by 232 people who stutter, aged 18 years or older. Results indicated that more than 70.0% of people who stutter agreed that stuttering decreases one's chances of being hired or promoted. More than 33.0% of people who stutter believed stuttering interfered with job performance, and 20.0% had actually turned down a job or promotion because of their stuttering. Results also indicated that men and minorities were more likely to view stuttering as handicapping than women and Caucasians. These findings suggested that people who stutter believed stuttering was handicapping in the workplace. The results may be helpful for clinicians who work with people who stutter.

Klompas and Ross (2004) carried out a study to investigate the life experiences of a group of South African adults who stutter and the impact of stuttering on their quality of life. Participants were 16 adults with a mean age of 28.9 and ranging from 20 to 59 years. Methods involved individual interviews designed to explore the life domains of education; social life; employment; speech therapy; family and marital life; and identity, beliefs and emotional issues. Main findings of the study indicated that the majority of participants perceived their stuttering did not have an adverse effect on their choice of occupation, ability to obtain work, and relationships with managers and co-workers, although it was perceived to influence their work performance and

hamper their chances for promotion. Although findings of this study concur with the present study with regard to vocation. Klompas and Ross (2004) focused on adult PWS aged between 28 to 59 years. The present study was carried out on a different age group; adolescent learners in class 6 to 8. In addition, the present study focused on vocational aspirations of LWS, unlike Klompas and Ross who focused on impact of stuttering in work environment.

Study findings by Zhang *et al.* (2009), Gabel *et al.* (2004), McAllister *et al.* (2013), Klompas and Ross (2005) were related as all focused on stuttering versus vocational aspirations and later employment. Fulya's (2014) study was based on factors influencing vocational aspirations among regular learners while Zhang *et al* (2009) was based on the impact of stuttering on various aspects of life such as employment. In addition, the study by Gabel *et al*. (2004) was based on role entrapment among PWS in career and how stuttering impacted on career opportunities. Gabel *et al.* (2008), study focused on effects of stuttering severity on role entrapment among LWS, where the study was done on non-stuttering university students. McAllister *et al.* (2013) was carried out to establish the impact of stuttering on employment outcomes. Findings indicated that there was no evidence adolescent stuttering might affect later employment.

Fulya's (2014) study examined factors that affect vocational aspirations among elementary students. Key factor such as disability was not studied. The present study sought to determine how stuttering effects influence vocational aspirations among LWS. Stuttering is a speech disability.

The study by Zhang *et al.* (2009) was carried out on fluent individuals who assumed the stuttering condition. Thus, the present study was based on real facts from the LWS themselves, unlike Zhang *et al.* (2009) study which was based on perceptions of the

non-stuttering students, who assumed the stuttering condition. The present study was correlational, unlike Zhang *et al.* (2009) study which was comparative. The present study sought to determine how stuttering effects influenced vocational aspirations; hence it was correlational. In view of the fact that data on vocational aspirations of LWS was limited.

The current study was carried out on CWS in primary schools unlike the study by Gabel *et al*. (2008) which was carried out on non-stuttering university students to get their perceptions on role entrapment. Secondly, the current study used questionnaire and interview schedule while Gabel *et al.* used VAS. Thirdly, the present study sought to determine the influence of stuttering effects on vocational aspirations among LWS. Unlike Gabel *et al.* (2008) study which found out role entrapment among PWS. In addition, the present study was carried out to find out which specific vocations LWS aspired to be in future and which ones the learner did not aspire to be in future, unlike Gabel *et al.* (2008) which was not specific on vocational entrapment among PWS.

Klein and Hood (2004) focused on adult PWS, however how stuttering influenced young adolescents in vocational aspirations was unknown, there was need to carry out a study among young adolescents LWS to get their views on how stuttering effects influenced choice of vocation in future. The current study bears similarity to Klein and Hood (2004) with regard to the influence of stuttering on careers. The present study examined the influence of stuttering effects on vocational aspirations among adolescent learners who stutter in regular schools, unlike Klein and Hood (2004) who used adults aged 18 years and above. Thirdly, Klein and Hood used a 17-item survey as instrument for data collection, the present study employed a rating scale, multiple choice questionnaire and interview schedule.

The present study bears similarity to Klein and Hood (2004) with regard to impact of stuttering on job performance. The current study established the influence of stuttering effects on vocational aspirations among learners who stutter. From the review of literature, a few empirical researches have been done in Africa and hardly any in Kenya on stuttering. Therefore, there was need to carry out a study to establish the influence of stuttering effects on vocational aspirations, a key educational achievement element among learners who stutter in regular primary schools in Kakamega County, Kenya.

2.5 Influence of Stuttering Effects on Academic Performance among Learners Who Stutter in Primary Schools

Academic performance is an educational achievement component which shows the the extent to which a learner has achieved the educational goals. It is measured using examinations and continuous assessment tests (Annie *et al,* 2006). Academic performance is important in fostering improvement, and shows the level of achievement in knowledge, skills and experiences (Farrington *et al.,* 2012).

In the USA, Rees and Sabia (2011) reviewed literature from National Longitudinal study of Adolescents Health to estimate the effects of stuttering on academic performance. The data involved twenty six thousand students across U.S.A. Seven percent of the respondents indicated they stuttered. Rees and Sabia (2011) observed that speech impairments were associated with lower scores on tests of reading and mathematics. Respondents who reported having a problem with stuttering tend to have lower grades than non-stuttering learners. In addition, stuttering was associated with a lower probability of graduating from high school and a lower probability of attending college. Rees and Sabia (2011) further asserted that speech impairment

such as stuttering may lead to academic problems because it interfered with language, which was the main medium in the production and sharing of knowledge. Rees and Sabia argued that learners whose language was impaired were likely to be treated differently by teachers and might suffer from reluctance to ask questions and provide feedback in the classroom.

British Stuttering Association, BSA (2005) noted that CWS were often teased and bullied while at school. The association further noted that the educational attainment of PWS was affected at all levels by stuttering. In addition, PWS are often made fun of, subjected to stereotypical assumptions and discrimination in accessing services and employment. In addition, stuttering also affected the child's academics. Achild who stutters might pretend not to know an answer in order to avoid speaking in front of his peers so that stuttering frustrations are not noticed. This holds back the child from reaching their full academic potential as a result of lack of participation in class (Scott, 2009).

Butter and Clare (2013) observed that students who stutter had scant interaction, spatial segregation, and limited encouragement. In addition, the students experienced tension and humiliation thus restricting their educational achievement and aspirations. Brian, Jones, Packman, Menzies, and Oslow (2011) carried out a study to establish the relationship between self-reported stuttering severity ratings on educational attainment in Australia. The study involved 147 adults seeking treatment for stuttering. At pre-treatment assessment, each participant reported the highest educational level they had attained and rated their typical and worst stuttering severity on a 9-point scale for a range of speaking situations. These included: (1) talking with a family member, (2) talking with a familiar person, not a family member, (3) talking

in a group of people, (4) talking with a stranger, (5) talking with an authority figure such as a work manager or teacher, (6) talking on the telephone, (7) ordering food or drink, and (8) giving their name and address. Results indicated that there was a significant negative relationship between highest educational achievement and mean self-reported stuttering severity rating for the eight situations (Brian *et al*., 2011).

McAllister *et al.* (2013) carried out a study in Britain to determine the impact of stuttering on educational and employment outcomes when other factors were controlled for. Data was analyzed from the National Child Development Study (NCDS), a British birth cohort study that has followed a group of over 18,500 people born in 1958 from birth and throughout life. It had collected data from cohort members as well as their parents, teachers and doctors, covering topics as diverse health and development, cognitive abilities, socio-economic circumstances, education, employment and relationships. When the members were 7, 11 and 16 years-old, their parents were asked to say whether their child stuttered. By the time they were sixteen years, 217 stuttered. The study compared educational and employment outcomes for these members with those for the other 16 year-old taking part in the study.

McAllister *et al.* (2013) noted that with regard to education, factors that influenced whether or not the cohort members stayed on at school beyond the minimum leaving age and the highest level of educational qualification they obtained by age 50. In all the analyses the researcher determined whether there was an association between stuttering and outcome variable, and then looked at what happened when the other variables were controlled. The second 'multivariate' analysis provided a more valid assessment of the impact of stuttering on the educational outcomes (McAllister *et al.*, 2013).

According to McAllister *et al.* (2013), results indicated that there was no significant difference between those PWS at age 16 years and those who did not stutter. Despite considerable evidence from previous studies implying an unhappy experience of school for many PWS, the results indicated that those who stuttered at 16 were statistically no more likely than their non-stammering peers to drop out of school. Secondly, there was no statistical difference between the two groups in terms of the highest academic qualification achieved at age 50. An individual who stutters may well be disadvantaged with respect to the other factors that predict educational outcomes and as a result may be at risk of poorer academic attainment in future years. In this study, there was no evidence to suggest that PWS attained poorer educational outcomes (McAllister, 2013).

Klompas and Ross (2004) interviewed 16 South African PWS on education and social life. The study found that most participants felt stuttering had impacted on their academic performance and relationships during their education. Klein and Hood (2004) indicated that PWS in the university regarded stuttering to have less impact than among CWS at primary school level due to the good social environment at the university. There was need to carry out a study in primary schools to determine how stuttering effects disadvantaged LWS in academic performance.

In Zimbabwe, study findings by Dembudzo and Schulze (2013) noted that speech impairments' such as stuttering may interfere with the educational achievement of a learner. It may lead to poor spelling and sentence construction. This may in turn affect academic performance in language and other verbal-academic subjects due to negative interpersonal relationships and possible development of a poor self-concept by speech-impaired learners. Extensive and frequent criticism and demands for better

speech production from LWS may influence their self-concept negatively, hence impact negatively on their academic performance.

Rees and Sabia (2011), Brian *et al.* (2011), Butter and Clare (2013), McAllister *et al.* (2013), Dembudzo and Schulze (2013), Klompas and Ross (2004), and Klein and Hood (2004) all researched on how stuttering affected academic performance. Rees and Sabia (2011) focused on how speech impairment such as stuttering led to academic problems among learners. On the other hand, Butter and Clare (2011) established that stuttering led learners to experience tension and humiliation which restricted their educational achievement. Brian *et al.* (2011) established how stuttering severity influenced educational attainment among learners. Dembudzo and Schulze (2013) noted that speech impairments' such as stuttering may handicap learner's educational performance, as it might lead to poor spelling and sentence construction. This may in turn affect academic performance in language and other verbal-academic subjects. Klompas and Ross (2004) found out that stuttering impacted on academic performance, a key element of educational achievement among LWS.

Brian *et al.* (2011) was carried out to determine how stuttering severity influenced educational attainment of PWS. Stuttering severity leads to stuttering effects such as fear, self-stigma, frustrations, embarrassment, and anxiety. It was unknown how such stuttering effects influenced educational attainment in terms of academic performance. The present study sought to establish how stuttering effects influenced academic performance among LWS, unlike Brian *et al*., (2011) study that focused on how stuttering severity influenced educational attainment.

Findings by Rees and Sabia (2011) with regard to academic performance were in terms of reading and mathematics. The study did not focus on how stuttering

influenced academic performance in all examinable subjects such as Mathematics, English, Kiswahili, Science and Social Studies. There was need to establish how stuttering effects influenced academic performance in various subjects among LWS.

McAllister *et al.* (2013) study was related to the present study with regard to educational outcome among LWS. The present study used correlation to examine the influence of stuttering effects on academic performance among LWS in class six, seven and eight. This is unlike the study by McAllister *et al.* (2013) which used multivariate analysis to find out the impact of stuttering on educational outcomes. In addition, McAllister *et al.* (2013) was a longitudinal study while the present study was a correlational and descriptive study.

Klompas and Ross (2004), as well as Klein and Hood (2004) are related with regard to academic performance among LWS. The extent to which stuttering effects as per Aslam (2013) and Kraaimaat *et al.* (2002), influenced academic performance was unknown. Secondly, how stuttering effects influenced academic performance in various subjects such as English, Kiswahili, mathematics, science and social studies was unknown. In addition, Klompas and Ross (2004) study was qualitative. This made it difficult to ascertain what influence stuttering impacted on academic performance. There was need to carry out a study that could use both quantitative and qualitative methods in determining the influence of stuttering effects on academic performance, a component of educational achievement among LWS.

Dembudzo and Schulze (2013) study found out how speech impairments, such as stuttering interfere with learner's academic performance in language and verbal-academic subjects. Dembudzo and Schulze (2013) study focused on learners' with speech impairment which was a bigger group , it was unknown how stuttering effects

influenced academic performance among LWS in various subjects including mathematics and sciences, unlike Dembudzo and Schulze who focused on language and verbal subjects alone. Third, the extent to which stuttering effects influenced academic performance among LWS was unknown. There was need to carry out a study to determine the extent to which stuttering effects influenced academic performance among LWS in primary schools.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

The study employed descriptive survey and correlational research designs. Descriptive survey design involves collection of data from a sample of population with respect to the variables (Best & Kahn, 2006). The method gathers data from a relatively large number of cases at a particular time. It is concerned with characteristics of individuals. In addition, it is about the statistics that reset when data is abstracted from a number of individual cases (Mugenda & Mugenda, 2003).

Descriptive survey design is essentially cross-sectional (Best & Kahn, 2006). A descriptive survey design is advantageous because it is simple and easy to administer. It allows collection of information in a relatively short period and it is accurate (Orodho, 2008). The use of descriptive survey design enables the researcher to find out facts adequately, seek opinions, describe, analyze, and interpret data. In addition, descriptive survey design assisted the researcher in formulating the objectives, methods of data analysis, sampling, collecting data, analysis of data and reporting the findings (Kothari, 2008).

Correlational research design was used in this study to find out the relationship between the stuttering effects and educational achievement (social interactions, classroom participation, vocational aspirations and academic performance) among learners in Kakamega County. The design ensure associations between variables are done and inferences are made (Best & Kahn, 2006; Field, 2008). The design was

useful in this study as it helped to determine the effects of stuttering on educational achievement aspects such as social interactions, classroom participation, vocational aspirations and academic performance among LWS.

3.2 Area of Study

This study was conducted among learners who stutter in regular primary schools in Kakamega County. Kakamega County has a prevalence of 12,000 PWS, out of which 4,400 are school going age children. Kakamega County recorded a total of 216 LWS were placed in regular primary schools between the years 2010 to 2013. The county is located at longitudes $34^0$21' and $35^0$00' East of the Prime Meridian and Latitudes $0^0$15' and $0^0$25' North of the Equator. The county border Bungoma County to the North, Vihiga to the South, Siaya to the South-East, Busia to the West, Nandi to the East, and Uasin Gishu to the North-East. Attached Appendix VIII.

Kakamega county has a population of 1,660,551 persons according to 2009 National Housing and Population Census Report (Republic of Kenya, 2009). This represented 544 persons per square kilometre (Kenya National Bureau of Statistics, 2014).

The county has a number of socio-economic activities including farming, trade, tourism and religion. The county grows sugar cane as the main cash crop. Other crops grown include: maize, beans, sorghum, millet, cassava and potatoes. The county has small scale traders and large-scale traders in various products and services. The county has Kakamega rainforest stretching from Kakamega East sub-county to Kakamega North sub-county, which is a tourist attraction scene. The county has it's headquarter in Kakamega town (Kakamega County Strategic Plan, 2013).

Kakamega County has a total of 842 public primary schools and 208 private primary

schools. In addition, it has 317 secondary schools and 31 special schools for learners with special needs. The current enrolment is as follows; public primary schools have a total of 410, 625 learners while private primary schools in the county have a total of 29,337 learners (Ministry of Education; Kakamega County Education Office, February 2014). Kakamega was chosen for this study because it had the highest estimated persons who stutter (16,603) in former western province and also it had the highest number of LWS who had been assessed and placed in primary schools (138) as compared to neighbouring counties in former Western Province according to results of baseline survey, 2014/2015.

3.3 Study Population

A total population of 84 learners who stutter in class six, seven and eight, 2301 regular learners in class six, seven and eight, 120 teachers and 20 head teachers were involved in the study. Class six, seven and eight learners were chosen because students in these classes are above age of childhood stuttering (3 to 7 years) which is part of normal language development (Craig & Craig, 2003). In the present study, LWS chosen were between 11 to 16 years old in classes six, seven and eight were above childhood stuttering period. Secondly, learners in class six, seven and eight had a better understanding of vocational aspirations they wished to pursue in future than those in lower classes. The cohort adequately helped in achieving the objective on effects of stuttering on vocational aspirations. Thirdly, learners in primary schools in class six, seven and eight were important in the study as they are at the prime grades of getting basic education which is key in the socio-economic development of Kenya (Kenyan Vision, 2030). Lastly, most learners in class six, seven and eight were at early adolescence stage (11-16 years) thereby experiencing physical, emotional,

cognitive, social, and emotional changes in their life. Thus, they were likely to experience strong feelings, more sensitive to social environment, more self-conscious, think about right and wrong, seek to be independent, explore sexual identity, seek romantic relationships and desire to develop strong social relationships. This is according to Australian Raising Children Network, 2016. These changes were likely to be affected adversely by stuttering condition during early adolescence stage than any other age group in the lifetime of an individual.

3.4 Sample and Sampling Techniques

The study employed multi-stage sampling technique that involved the use of purposive, stratified random, and saturated sampling techniques. Purposive sampling was used to select 20 primary schools which had LWS in Kakamega County. To find sample of regular learners, Krejcie and Morgan (1970) formula was used to determine the appropriate sample size from a large population of 2301 regular learners as follows:

$s = X\ 2NP\ (1-P) \div d\ 2\ (N-1) + X^{2}P\ (1-P)$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be .50 since this would provide the maximum Sample size).

d = the degree of accuracy expressed as a proportion (.05).

$s= (3.841\times2301\times0.5\times0.5)/0.05^{2} \times.2300+3.841\times0.5\times0.5$

s= 329

Sample size = 329 regular learners

Stratified random sampling was used to select 329 regular learners in class six, seven and eight. Stratified random sampling was used to avoid biasness. This technique ensured that each member of the target population had an equal and independent chance of being included in the sample in each stratum (Mugenda & Mugenda, 2003). Saturated sampling technique was used to select 76 learners who stutter in class six, seven and eight, 108 teachers and 18 head-teachers. The rest of the respondents (8 LWS, 12 teachers and 2 headteachers) from the target population were used during the pilot study. Saturated sampling technique ensured all participants took part in the study because the population of learners who stutter, teachers and head teachers is small. The technique ensures all categories of population presented were included in the sample (Best & Kahn, 2006). Table 5 shows the target population and sample size.

Table 5: Target Population and Sample Size

Category Of Respondents	N	**Sample size (n)**	**%**
Learners who Stutter	84	76	90
Regular learners	2301	329	14
Teachers	120	108	90
Head teachers	20	18	90

N-Target population, **%**-percentage of sample size.

3.5. Instruments of Data Collection

The study used questionnaire, interview schedule, observation schedule, and academic performance tests as instruments of data collection. There were two sets of questionnaires for learners who stutter and regular learners respectively. Interview

schedule was used to get information from LWS, teachers, and head teachers. Observation schedule was used to collect information on social interactions and classroom participation of learners who stutter.

3.5.1 Questionnaire for Learners who Stutter (QLS)

A questionnaire was used to collect data from both LWS and regular learners. The questionnaire was used to establish the extent to which effects of stuttering occur among LWS and how stuttering effects influenced social interactions, classroom participation, and vocational aspirations among learners who stutter in regular primary schools. The questionnaire consisted of closed-ended questionnaire items with five point rating scale format type of questions. The QLS is attached as Appendix 1.

3.5.2 Questionnaire for Regular Learners (QRL)

A questionnaire was used to collect data from regular learners. It was used to find out views and experiences of regular learners on effects of stuttering on social interactions and class participation among learners who stutter. The questionnaire consisted of closed-ended questionnaire items with five point likert scale format type of questions. The QRL is attached as Appendix II.

3.5.3 Academic Performance Tests (APT)

Researcher made tests were administered to learners in class six, seven, and eight. The tests were set across the primary school syllabus and text books approved by Kenya Institute of Curriculum Development. Tests consisted of questions in all the five examinable subjects in primary school: English, Kiswahili, Mathematics, Science, and

Social Studies. Each class had separate tests in all the five subjects. Each test for each class consisted of 5 sections for each subject. Multiple choice questions were used in all the tests as per the Kenya Certificate of Primary Education (K.C.P.E) standards. Each test covered content across the syllabus which had been taught to learners across the 20 schools with LWS by the time the research was being done as per the table of specifications of content taught in each subject across 20 schools (See Appendix VII). Heads of subject panels in test schools across Kakamega county assisted the researcher in developing test items in each subject. Learners in test schools were alerted 2 weeks before the tests to prepare. Tests were administered to both regular learners and LWS. The test served as mid-term test for class six, seven, and eight across the schools.

Five research assistants and class teachers of respective classes were trained on how to assist in administering the tests. The five research assistants and class teachers administered the tests under instructions and supervision from the researcher. Content validity and test-retest reliability were used in ensuring the tests were valid and reliable before being administered. Later, the tests were marked by respective class teachers with the assistance of the researcher and research assistants to cross-check consistency in marking and grading. Each subject was marked out of 100%. The total marks per learner in all the five subjects was averaged out of 500 marks. The marked LWS test scripts in all the subjects were collected from class teachers by the researcher in order to check the consistency in marking, moderate the marks and record the marks of each learner. Later the scripts were returned to respective schools after 2 weeks. During the entire process of constructing test items and administering the tests, teachers and research assistants ensured the tests were not leaked to the learners. The raw marks (X-scores) for each subject for each learner were

standardized into Z-scores and analyzed accordingly. Academic Performance Tests are attached as Appendix IX, X, XI.

3.5.4 Interview Schedule for Learners who Stutter (ISLS)

Interview schedule was used to collect information from LWS on the influence of stuttering effects such as fear, anxiety, embarrassment, frustrations and self-stigma on educational achievement elements such as social interactions, classroom participation, vocational aspirations and academic performance. The interview schedule was used to find out the effects of stuttering on social interactions, class participation, academic performance and vocational aspirations among learners who stutter in school activities. ISLS is attached as Appendix III.

3.5.5 Interview Schedule for Teachers and Head teachers (ISTHT)

Interview schedule for teachers and head teachers were used to collect information from teachers on the influence of stuttering effects on educational achievement. The interview schedule was used to find out the influence of stuttering effects on social interactions, classroom participation, academic performance, and vocational aspirations among learners who stutter in school activities. ISTHT is attached as Appendix IV.

3.5.6 Observation Schedule (OS)

3.5.6.1 Observation Schedule on Social Interaction among LWS (OSSILWS)

This observation schedule was used to find out the influence of stuttering effects on social interactions among LWS. OSSILWS was used to check how the effects of stuttering influence social interactions among learners who stutter. OSSILWS is

attached as Appendix V.

3.5.6.2 Observation Schedule on Classroom Participation among LWS (OSCPLWS)

OSCPLWS was used to determine how the effects of stuttering influenced classroom participation among LWS, between the LWS and regular learners and between LWS and the teacher during classroom discourse. OSCPLWS is attached as Appendix VI.

3.6. Validity of the Research Instruments

Validity refers to the degree to which results obtained from analysis of data actually represent the phenomenon under study (Mugenda & Mugenda, 2003). Face validity is a qualitative means of ascertaining whether a measure on the face of it appears to reflect the content of a concept (Bryman & Bell, 2003). Content validity, on the other hand, is a qualitative means of ensuring that a measure includes an adequate and representative set of items to cover a concept (Drost, 2011). Consequently, the determination of the face and content validity of the research instruments in this study guaranteed accuracy and connection among the questions asked and variables measured. Face and content validity are ensured by obtaining subjective judgments by the experts of the concerned field (Bryman & Bell, 2003; Sekaran, 2003). Content validity was used to establish the accuracy of the research instruments. Content validity of research instruments were established by presenting the research instruments to experts from the School of Education, Maseno University, who were conversant in content on stuttering and educational achievement to ascertain. The experts judged the instruments independently to ensure that all the content on each test item addressed the specific objectives. The experts made recommendations on

each section testing each objective. Corrections were made based on recommendations before the instruments were administered in the field.

Academic performance tests were validated through face and content validity. Content validity of the academic performance tests was established by giving the tests to teachers who teach, set and mark various subjects (subject panels) in class six, seven and eight in each of the five subjects in test schools to ascertain the content of each test item. Teachers were chosen from both rural and urban primary schools in the county to ensure the validity of the tests to learners in both contexts. Face validity of the tests was ascertained by experts in the area of psychometrics from Educational Psychology Departments, Maseno University. Later, the raw marks (X-scores) obtained from the tests administered in various schools were standardized into Z-scores in order to validate them further for use in correlation matrix.

3.7 Reliability of the Research Instruments

According to Best and Kahn (2006), reliability refers to the extent to which a research instrument measures whatever it is meant to measure consistently. Reliability of the research instruments was established through test-retest. Ten percent of the study population was selected in which 8 learners who stutter, 230 regular learners, 8 teachers and 2 head-teachers were selected. A test in form of questionnaire and interview schedule was administered to ten percent of the study population. The questionnaire was collected from respondents after three days in order to give them enough time to respond appropriately. Interview schedules were administered to the teachers and head teachers by the researcher.

Later, the research instruments were re-administered to the respondents after 2 weeks. The academic tests were first administered, then after 2 weeks re-administered to the

same respondents. It was marked and coefficient of correlation calculated using Pearson, r correlation. Reliability coefficient for the questionnaire for learners who stutter was 0.89, while regular learners' questionnaire was 0.86. Reliability coefficients of academic tests were: 0.86 for class eight, 0.75 for class seven and 0.89 for class six in which all were above acceptable value of .07, $p < .05$ as pointed out by Kothari (2008) and Best & Kahn (2006). Necessary corrections were made on the research instruments before being administered to the respondents. However, the population used for pilot study was not used in the actual study.

Reliability for interview schedule was determined by obtaining responses from the two administrations of the interviews. Later they were counter checked thematically to ascertain consistency. The inadequacies, inconsistencies and weaknesses of the research instruments identified during the pilot study were corrected.

Inter-rater reliability which refers to the degree to which two or more observers make consistent estimates of the same phenomena accrding to Cohen, Manion and Morrison (2007) was done on observation schedule. observation schedules for social interaction and classroom participation. In this study, a research assistant had been trained by the researcher on how to record observations carried out the observation process alongside the researcher. Both the researcher and the research assistant checked the social interactions of the learner in class and outsides class as well as the classroom participation of LWS. In addition, they coded the categories and modes of social interaction and various activities during classroom participation. A percentage of agreement was obtained by dividing the number of times the researcher and the teacher agreed by the total number of ratings. The acceptable level of agreement was set at 80.0% and above, the conventionally accepted level of agreement for interrater-observers (Barlow *et al.,* 2008 & Matella, Nelson, Morgan & Marchlands, 2013). In

the present study, the level was 81.5%

3.8. Data Collection Procedure

Research permission was sought from Maseno University Ethics and Review Committee, MUERC. A courtesy call was made to the County Director of Education in which the regular primary schools with LWS were to seek permission to conduct research within the county. The same was done to the Sub-County Education Officers (SCEOs) in Kakamega County. The head teachers of the schools were later contacted and permission for the study sought. The researcher met and trained his research assistants who included five external research assistants and class teachers for class six, seven, and eight to assist LWS and regular learners answer the questionnaires and administer academic performance tests. The external research assistants supervised the administration of the academic tests to ensure smooth running of examinations . Research instruments of each section on the effects of stuttering, social interaction, class participation, and vocational aspirations were valid . Schools were visited at random during the administration of the academic tests to ascertain transparency and the smooth running of the examinations. The tests for each subject was administered the same day across the 20 schools.

Later, the researcher administered to the schools to carry out interviews and distribute the questionnaires. The questionnaires and interview schedules were administered by the researcher with the assistance of class teachers (internal research assistants) and the five external research assistants. The researcher interviewed teachers and LWS with assistance of research assistants.

3.9. Methods of Data Analysis

Quantitative data collected from the questionnaires were coded manually, entered into the Statistical Package for Social Sciences (SPSS) data sheet before analyzing it using SPSS – 19.0 version. For the first objective, means were used to establish the extent to which stuttering effects occurred among LWS in Kakamega County. The second objective used means and standard deviation technique to establish the social interaction while multiple regression analysis was employed to determine the influence of stuttering effects on social interaction while controlling for the effect of age, gender, socio-economic status of the parents of the child such as occupation and level of education (intervening variables).

Partial Correlation was used to establish the influence of stuttering effects on academic performance among LWS in class six, seven, and eight. Partial correlation enabled the researcher to control for intervening variables before correlating stuttering effects with academic scores in each class. Correlation significance level was set at $p< .05$ on the influence of stuttering effects on academic performance was considered to have a relationship between the stuttering effects and academic performance among LWS in the respective classes. To determine the influence of stuttering effects, the correlation coefficient, r was squared to get coefficient of determination (R^2), which was later converted to percentage in order to get the influence of each of the five stuttering effects on academic performance per class.

The objective on the influence of stuttering effects on classroom participation among LWS was determined using multiple regressions. The intervening variables were controlled statistically during the regression analysis in order to determine the

influence of stuttering effects on classroom participation. In general, multiple regressions were used to determine the influence of stuttering effects on educational achievement.

Influence of stuttering effects on vocational aspirations was determined using means and inferences from interviews. Qualitative data collected from interview schedules and observation guides were organized, categorized and reported in an ongoing process as themes and sub-themes emerged.

In coding and interpretation of the questionnaires from LWS and regular learners, items from closed ended questionnaires were coded with each of the five points rating scale being given: Always (A) - 5 points, Very Often (VO)- 4 points, Often (O)- 3 points, Rare (R) - 2 points, Not at All (NA) - 1 point. Reverse coding order was done for particular statements in order to align the coding with the rest of the test items as advised by Brace, Kemp & Snelgar (2006); Kothari (2008). For example the statement, "I have many friends" was reversed to "I do not have many friends" then reverse-coding done as follows; Always (A)- 1 point, Very Often (VO)- 2 points, Often (O)- 3 points, Rarely- 4 points, Not at All (NA)- 5 points. This applied to the rest of statements that were reverse-coded during coding.

Mean for each item on the extent to which stuttering effects occur among LWS in Kakamega County were run using SPSS. In the interpretation of scores, a mean score of 1-2.99 indicated low negative influence, and 3.0 to 5.0 indicated an high influence of stuttering effects on a given variable. For objectives on the influence of stuttering effects on social interaction was determined using multiple regression analysis.

Before analysis, actual social interaction status was determined by reverse-coding the scoring of negative statements to make them positive statements in order to get the actual social interaction among LWS, where "Always" = 1 point to "Not at All" = 5 points.

Objective three, on influence of stuttering effects on class participation, before running multiple regression to predict class participation from stuttering effects, actual classroom participation status was determined by reverse-coding the scoring of negative statements to make them positive in order to get actual classroom participation by LWS. Influence of stuttering effects on vocational aspirations was determined by running the regression of least rated vocational aspirations against stuttering effects.

In multiple regressions, the control variables such as age, socio-economic status of parents' of learner, and gender of learner were first analyzed in model 1 to establish their effect on each educational achievement element without controlling. In model 2, the control variables were controlled and how the five stuttering effects influenced each of the five elements of educational achievement was established using multiple regressions analysis. For interpretation of multiple regression analysis, significance level, $p< 0.05$ for each independent variable (five stuttering effects) was found to have an influence on educational achievement elements (social interactions, classroom participation, vocational aspirations, and academic performance). For correlation data on academic performance, Pearson correlation (r) was considered significant at $p < 0.05$. The correlation coefficient (r) was later squared for each effect to get R^2 in order to determine the influence of stuttering effects on academic performance for each classes 6, 7, and 8. This was in accordance with Brace *et al.* (2006) and Field

(2008).

3.9 Ethical Considerations

According to Creswell (2002), ethical considerations protect the rights of participants by ensuring confidentiality. The respondents were assured of the confidentiality of information given and were informed that their views would only be be used for the purpose of research only. Anonymity and privacy was highly observed by not capturing the respondent's names on the questionnaires. The researcher conformed to the principle of voluntary consent whereby the researcher disclosed the real purpose of the study and also gave the respondents a chance to willingly participate in the study.

Secondly, the researcher sought consent from parents of children who stutter through the head teacher of respective schools before the research was done. Research was carried only on those children whose parents had given consent and were willing to participate in the research. Similarly, informed consent to the parents of the child who stutter to agree was sought before the research was carried out (See Appendix XVII). Research permission was sort from Maseno University Ethics and Review Committee, MUERC. This was in order to assist researcher get permission to contact research in various schools in the county.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Demographic Details of Respondents

This section represented data on demographic details such as gender of LWS, age of learners and socio-economic status of parents of LWS. This was important in order to control intervening variables during multiple regressions and partial correlations in subsequent sections.

4.1.1 Gender of LWS

Table 6 shows data on gender of LWS.

Table 6: Gender of LWS (N= 76)

LWS	F	%
Male	44	59.5
Female	32	40.5
Total	**76**	**100.0**

Key: f- frequency, **%**- percentage

From table 6, it was evident that most LWS were male 44 (59.5%) and females were 32 (40.5%). Therefore most male LWS participated in the study.

4.1.2 Age of LWS

Table 7 represents data on age of LWS.

Table 7: Age of LWS (N= 76 LWS)

Age	Frequency	Percentage
9-10 years	0	0.0
11-12 years	19	25.0
13-14 years	40	52.6
15-16 years	17	22.4
Above 16 years	0	0.0
Total	**76**	**100.0**

From Table 7, it was evident that most LWS were aged between 13-14 years, 40 (52.6%), followed by 11-12 years, 19 (25.0%), 15-16 years, 17 (22.4%), 9- 10 years and above 16 years were none, 0 (0.0%). Therefore, most LWS who participated in the study were aged between 13-14 years.

4.1.3 Socio-Economic Status of Parents of LWS

Table 8, 9, 10 and 11 represent data on socio-economic status of parents of LWS.

Table 8 shows the occupation of the father of LWS.

Table 8: Occupation of Father of LWS (N= 76 LWS)

Occupation	Frequency	Percentage
Teacher	9	11.8
Doctor/nurse	16	21.1
Engineer/mechanic	7	9.2
Peasant farmer	34	44.7
Businessman	10	13.1
Total	**76**	**100.0**

Table 8 indicated that most fathers of LWS were peasant farmers, 34 (44.7%), followed by doctors or nurse, 16 (21.1%), businessman 10 (13.1%), teachers 9 (11.8%) and a few were engineers 7 (9.2%). Therefore, most fathers of LWS were peasant farmers.

The occupation of mothers of LWS was presented in Table 9.

Table 9: Occupation of Mother of LWS (N= 76)

Occupation	Frequency	Percentage
Teacher	3	3.9
Peasant	20	26.3
home maker	48	63.2
Nurse	5	6.6
Total	**76**	**100.0**

Table 9 indicated that most mothers of LWS were home makers, 48 (63.2%), followed by peasant farmers, 20 (26.3%), followed by nurses 5 (6.6%) and teachers 3 (3.9%). Therefore, most mothers of LWS are homemakers.

Level of education of father of LWS is presented in Table 10.

Table 10: Fathers' Level of Education (N= 76)

Level of Education	Frequency	Percentage
Did not complete class 8	7	9.2
Completed class 8	24	31.6
Did not complete form 4	10	13.2
Completed form 4	10	13.2
Completed college	8	10.5
Completed university	17	22.4
Total	**76**	**100.0**

Table 10 shows that most fathers of LWS completed class eight, 24 (31.6%), universitylevel 17 (22.4%), did not complete form 4, 10 (13.2%), completed form 4, 10 (13.2%) a few were at college level 8 (8, 10.5%) and few did not completed class eight, 7 (9.2%).

Education level of mother of LWS is presented in Table 11.

Table 11: Mothers' Level of Education (N= 76)

Level of Education	Frequency	Percentage
Mother did not complete class 8	19	25.0
Mother completed class 8	20	26.3
Mother did not complete form 4	10	13.2
Mother completed form 4	11	14.5
Mother completed college	14	18.4
Mother completed university	2	2.6
Total	**76**	**100.0**

Table 11 indicated level of education of mothers of LWS. From the table, LWS rated mothers completed class eight were 20 (26.3%), followed by most mothers did not complete class eight, 19 (25.0%), completed college 14 (18.4%), completed form four, 11 (14.5%), did not complete form four 10 (13.2%), university level 2 (2.6). This implies that most mothers of LWS had completed class eight, while a few had completed university education.

This demographic data was important during multiple regression because the demographic information about LWS had to be controlled during analysis.

4.2 Extent to which Stuttering Effects occur Among Learners Who Stutter in Kakamega County

This section presents results and discussions on data on the extent to which effects of stuttering occur among learners who stutter in regular primary schools in Kakamega County. The data was collected using a questionnaire for learners who stutter.

Learners were asked to indicate the extent to which they felt the effects of stuttering occurred in specific situations. They were expected to select from a rating scale ranging from “Not at all” (1) to “Always” (5). The data was coded and analyzed through means. The results are presented in Table 12.

Table 12: Stuttering Effects among LWS (N= 76 LWS)

Statement	M
Anxiety	
I am depressed when talking	4.17
I find difficulty speaking to an unfamiliar person	4.51
I experience difficulty speaking to large crowds	4.43
I tremble while speaking	4.24
Mean: Anxiety	**4.34**
Fear	4.62
I fear speaking in class	
I fear speaking because I get stuck on a word for a long time	4.45
I fear speaking to a large group as I stutter more	4.39
I fear talking because I prolong words and sentences while answering a question in class	4.57
I fear speaking because I hesitate a lot while at school	4.68
Mean: Fear	**4.54**
Frustrations while speaking	
I get frustrated while speaking	4.54
I experience frustrations in class when I repeat syllables and words while talking	4.57
Sometimes I get frustrated when I prolong words and sentences when talking at school	4.43
I get frustrated when I interject some syllables to a word in order to speak well	4.26
Mean: Frustrations	**4.45**
Self-Stigma	
I avoid other learners who laugh at me	4.74
I avoid engaging in verbal activities with some teachers and other learners while in class.	4.16
I do not seek to be with other learners while at school	4.22
I withdraw from other learners in verbal activities at school	3.80
Mean: Stigma	**4.23**
Embarrassment among LWS	
I am embarrassed while speaking because other learners tease me when I speak	4.29
I am embarrassed while speaking because I have difficulties in speaking well	4.58
I am embarrassed because other learners ridicule me on every word I get stuck when I speak at school	4.60
Other learners laugh at the way I speak	3.75
Mean: Embarrassment	**4.31**
Overall mean on stuttering effects	**4.37**

Key: M- Mean

Table 12 shows the extent to which various effects of stuttering occurred among LWS in Kakamega County. Fear was the highest rated effect of stuttering (M = 4.54), followed by frustrations (M = 4.45), anxiety (M = 4.34), embarrassment while speaking (M = 4.31) and least rated was self-stigma (M = 4.23). The overall mean rating on the extent to which effects of stuttering occur among LWS in Kakamega County was 4.37. This implied that all the five stuttering effects occurred very often among LWS.

Findings of this study concurred with findings by Lesser (2011) who indicated that LWS had worst experience of anxiety when called to speak in front of a crowd on a microphone. Learners experienced the worst total blockage, hence were unable to speak any word as a result of anxiety and anticipation of stuttering (Lesser, 2011). In the present study, LWS reported experiencing similar difficulties related to anxiety (M= 4.34) and embarrassment (M= 4.31) when speaking. This is because LWS experienced anxiety as a result of anticipating dysfluency in activities involving speaking.

In addition, the current study found concurrence with findings by Langevin & Hagler (2004), Blood & Blood (2004) as well as Blood and Blood (2007), who reported that adolescents, who stutter, are more likely to be teased or bullied at school. In the present study, self-stigma (M= 4.23) among LWS was rated highly by a majority of respondents as one of the stuttering effects. This was because other learners laugh at the child while speaking. This made the LWS to withdraw from the rest in various activities. It should be noted that bullying is one way in which stigma manifests itself. One reason for bullying is to ultimately stigmatize the victim. In turn the victim

internalizes the victimization and develops self-stigma in verbal activities likely to lead to bullying or teasing. The current study therefore bears similarities with studies by Langevin and Hagler (2004), Blood and Blood (2004), Blood and Blood (2007) and Hughes *et al*. (2010) who noted that LWS were discriminated.

In spite of the similarities between the present studies with the previous authors, the studies differed in the samples used. Hughes *et al.* (2010) study used non-stuttering learners who assumed the stuttering condition; thus their results were based on perceptions, whereas the present study used 76 LWS, 329 regular learners and 108 teachers as respondents, thus the results of present study were more valid and factual.

It is worth noting that the effect of self-stigma among learners who stutter is manifested in various forms such as avoiding to get involved in verbal activities where they are likely to be discriminated, teased or bullied. Self-stigma arises among LWS because the learner undergoes painful experiences when he is bullied, teased or discriminated. As a result the LWS develops negative feelings towards himself in most communication situations leading to self-stigma.

The extent to which anxiety occurred among LWS in the present study was rated very often (Mean = 4.34). These findings are in agreement with Kraaimaat *et al*. (2002) who found that adults who stutter are more likely to experience social anxietythan those who do not stutter. The present study bears similarity with Kraaimaat *et al.* (2002), it is worth noting that anxiety is experienced by both LWS and adults who stutter. The anxiety LWS experienced was as a result of anticipation of stuttering due to self-consciousness.

Findings of the present study concurs with Aslam (2013) who observed that persons

who stutter experience negative effects such as frustrations, embarrassment, self-stigma, anxiety and fear as a result of stuttering. In the present study, findings indicated that the extent to which stuttering effects that occured among LWS was very often (Mean= 4.37) among young adolescent LWS in regular schools. It is important to note that both the present study and Aslam (2013) were related with regard to stuttering effects. The present study however, was carried out in a primary school set up, unlike Aslam's (2013) study which was carried at the family level. Thus, the extent to which the effects of stuttering occurred among LWS and persons who stutter both at home and school was large. This implied that effects of stuttering such as fear, anxiety, embarrassment, frustrations and self-stigma influenced activities of PWS both at school and home.

4.3 Influence of Stuttering Effects on Social Interactions among LWS

Data on the influence of stuttering effects on social interactions as a key element of educational achievement among LWS was collected using a questionnaire. Learners were asked to respond on how they interacted socially while at school in specific situations. They were expected to select from a rating scale ranging from "Not at all" (1 point) to "Always" (5 points). In order to determine the influence of stuttering effects on social interactions, multiple regression analysis was carried out. Before analysis, the researcher sought to find out if the basic assumptions for multiple regression analysis had been met. There was no multicollinearity between independent variables of the study as indicated in appendix XVIII. In addition, the data on individual variables had a fairly normal distribution. The data was also analyzed using means and presented in Table 13 and 14.

4.3.1 Social Interaction Status among LWS

Table 13 presents data on social consequences that face LWS during social interactions as a key component of educational achievement as rated by LWS.

Table 13: Difficulties LWS Experienced in Social Interaction as rated by LWS

	Statement	M
	I am discriminated in play activities	4.26
	I withdraw in social activities	3.47
	I am rejected by my peers and teachers at school	4.53
	I am liked by other learners during social interactions while at school (R)	4.38
	I am bullied during play activities	3.33
	LWS feel teacher avoids listening to them during social activities in school	4.05
	I am perceived negatively by regular learners	4.67
	I socialize well with other learners in school (R)	4.59
	I avoid speaking in public	3.38
	I like play activities involving talking (R)	4.22
	Learners who stutter are friendly (R)	3.89
	Teachers perceive learners who stutter as outgoing (R)	4. 34
	I have many friends (R)	4.87
	I find it difficulty in establishing interpersonal relationships	3.22
	Regular learners laugh at me when I talk	4.33
	I withdraw from interacting with regular learners during games that require talking.	4.21
	Overall Mean On Social interaction	**4.11**

Key: n- number of learners who stutter, M-Mean, R- Reverse-coded.

Table 13 shows data on social interaction variables among LWS. From the table, key indicators of negative consequences during social interactions among LWS included: LWS were rejected by regular learners and teachers (M = 4.53), regular learners laughed at LWS when they talk (M = 4.33), discrimination of LWS in play activities (M =4.26), learners who stutter withdrew from interacting with regular learners in

games that required talking (M = 4.21), teachers avoided listening to LWS during social activities (M = 4.05). Others ratings included: LWS had difficulty establishing interpersonal relationships (M- 3.22); being bullied during play activities (M = 3.33); LWS avoiding speaking in public (M = 3.38), and LWS were unfriendly (M = 3.89). The overall mean on negative consequences of social interactions status among LWS was 4.11 as rated by LWS. This implied that stuttering affected social interaction status among LWS very oftenly. LWS experienced negative social consequences because LWS had few friends, LWS were perceived negatively by regular learners, did not socialize well with others, and regular learners laughed at LWS while speaking in various social activities.

To triangulate these findings from LWS on social interaction status, regular learners were asked to respond to the same statements. Data was collected using a questionnaire ranging; “Always”- 5 points to “Not at all”- 1 point. Regular learners ratings on negative consequences LWS experienced in social interaction were analyzed using means and presented in Table 14.

Table 14: Difficulties LWS experienced in Social Interaction According to Regular Learners (Regular learners, N= 329)

Variable	Mean
Learners who stutter are discriminated against in play activities	3.94
Learners who stutter are withdrawn during socialization time	3.40
Learners who stutter are stigmatized by other learners and teachers	4.00
Learners who stutter are liked by regular learners during social activities (R).	3.97
Learners who stutter are bullied during social interactions	3.68
Teachers do not listen to learners who stutter	4.66
Learners who stutter are perceived negatively by non-stuttering learners	3.79
Learners who stutter do socialize well with other learners in school (R)	4.46
Learners who stutter avoid speaking in public due to fear of embarrassment	4.40
Learners who stutter like play activities involving talking (R)	4.01
Learners who stutter are friendly (R)	3.84
Teachers perceive learners who stutter as outgoing (R)	3.74
Learners who stutter have few friends who like interacting with them (R)	4.48
Regular learners find it difficulty establishing interpersonal relationships with learners who stutter	4.07
Regular learners laugh at learners who stutter while talking	4.88
Regular learners joke with learners who stutter during break time	3.89
Mean Social Interaction	**4.08**

KEY: M- Mean, R- Reverse coded

From Table 14, it is evident that most regular learners perceived LWS experienced negative consequences during social interactions. Regular learners indicated that they laughed at LWS while talking (M= 4.88), teachers did not listen to LWS during social

activities (M= 4.66), LWS had few friends who interacted with them (M= 4.48), and LWS did not socialize well with other learners while at school (M= 4.46). On the overall, regular learners rated mean negative consequences on social interaction (M = 4.08) among LWS. This implied that LWS very often experienced difficulties in most social activities according to experiences of regular learners. Such difficulties in social interactions included regular learners laughing at LWS while talking, teachers not listening to LWS during social activities, LWS having few friends who interacted with them, and LWS did not socialize with others while at school.

Findings of this study on social interactions among LWS concur with findings by Davis *et al*. (2007) who indicated that LWS were rejected by regular learners. In the present study, LWS were discriminated against by regular learners in play activities (M = 4.26). A mean of 4.26 indicated that LWS were very oftenly discriminated against by regular learners. LWS were discriminated in social activities as a result of stuttering.

In addition, findings of the present study concurred with Jaan's (2011) study which found out that stuttering had negative social consequences for preschoolers aged 3 and 4 years old as some CWS avoided speaking during play due to negative peer reaction to stuttering. In the present study, most LWS reported they had difficulties in social interaction as rated by LWS (Overall Mean = 4.11) and regular learners (Overall Mean = 4.08). This implied that LWS experienced difficulties in social interactions very oftenly. This was because stuttering had a number of negative social consequences that affected LWS such as LWS being rejected (M= 4.53), being laughed at while talking (M= 4.33), LWS being discriminated in play activities (M= 4.26), having few friends who interacted with them (M= 4.48), and failing to socialize

well with other learners while at school (4.46). These made LWS shy away from engaging in social interactions while at school.

It is worthnoting both pre-school children who stutter and young adolescent LWS experienced negative social consequences as a result of stuttering. It is therefore likely that the effects of stuttering occur right from childhood through to adolescence.

4.3.2 Multiple Regression Analysis on Influence of Stuttering Effects on Social Interactions

In order to determine the influence of stuttering effects on social interactions among LWS, multiple regression analysis was done to predict social interactions from the stuttering effects. Before analysis, the researcher sought to find out if the basic assumptions for multiple regressions had been met. There was no multicollinearity between the independent variables of the study. This is attached in Appendix XVIII. The variables of the study were entered in two steps. The first was for control variables which included the age of the learner, socio-economic status of parents of the learner and gender of LWS. The second step included the controlled variables and the five stuttering effects (anxiety, fear, frustrations, self-stigma and embarrassment to speak among LWS). The significance level was set at $p < .05$. The model was significant, $F(11, 64) = 21.57$, $P < .05$. As indicated in Table 15.

Table 15: Model Significance on Influence of Stuttering Effects on Social Interactions among LWS (N= 76 LWS)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.287	6	.214	3.052	.011[a]
	Residual	4.707	69	.070		
	Total	5.993	75			
2	Regression	4.752	11	.432	21.571	.000[b]
	Residual	1.242	64	.020		
	Total	5.993	75			

a. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father

b. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking

c. Dependent Variable: mean of social interaction

Key:
Df- degree of freedom
F- F-test.
Sig.- significance level (set at .05).

The regression analysis further produced a model summary for influence of stuttering effects on social interactions among LWS. The significance level was set at $p < .05$. The results are presented in Table 16.

Table 16: Model Summary for Influence of Stuttering Effects on Social Interactions among LWS (N= 76 LWS)

					Change Statistics				
Model	**R**	**R^2**	**Adjusted R^2**	**Std. Error of Estimate**	**R^2 Change**	**F Change**	**df1**	**df2**	**Sig. F Change**
1	.463[a]	.215	.144	.26505	.215	3.052	6	67	.011
2	.890[b]	.793	.756	.14151	.578	34.607	5	62	.000

a. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father
b. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, mean of Stigma, mean of Anxiety to speak, mean of embarrassment while speaking
c. Dependent Variable: mean of social interaction

Key: R- a measure of correlation between the observed values of the criterion variable and its predicted values.
R^2- coefficient of determination, indicates proportion of variable in the criterion variable which is accounted for by the model.
Adjusted R^2- indicates number of predictor variables in the model and the number of observations (participants) that the model is based on.
df- degree of freedom

Table 16 shows that all the variables in model 2 accounted for 75.6% (Adjusted R^2 = .756) of the variance before controlling for intervening variables in social interactions of LWS. After controlling for age, socio economic status of parents of the learner and sex in model 2, the stuttering effects accounted for 57.8 % (R^2 Change = .578) $p<.05$ of the variance in social interaction among LWS.

This implied that the five stuttering effects significantly influenced social interactions among LWS by 57.8%. Therefore, stuttering effects accounted for 57.8% variance in social interactions among LWS. According to Field (2008) and Brace *et al.* (2006), R^2 Change of above .5, $p< .05$ is considered significant. In the current study, R^2 Change

= .578), p<.05 was significant. This further implied that stuttering effects accounted for 57.8% variation in social interactions among LWS. The remaining 43. 2% would be explained by other factors.

Further, the results of regression analysis of model coefficients on the influence of stuttering effects on social interactions among LWS were presented as shown in Table 17.

Table 17: Model Coefficients on Influence of Stuttering Effects on Social Interactions among LWS (N= 76 LWS)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	3.357	.288		11.658	.000
	Gender of pupil	-.104	.054	-.219	-1.938	.057
	Occupation of the father	.051	.020	.302	2.523	.014
	Occupation of the mother	.036	.036	.114	.995	.323
	Level of education of father	-.045	.027	-.212	-1.660	.102
	Level of education of mother	.031	.024	.165	1.274	.207
	Age of the pupil	-.067	.033	-.230	-2.049	.044
2	(Constant)	1.648	.364		4.526	.000
	Gender of pupil	-.033	.031	-.070	-1.085	.282
	Occupation of the father	.020	.012	.121	1.745	.086
	Occupation of the mother	-.011	.020	-.034	-.547	.586
	Level of education of father	-.012	.015	-.057	-.812	.420
	Level of education of mother	.004	.013	.020	.284	.778
	Age of the pupil	-.032	.018	-.109	-1.733	.088
	Self-stigma	-.092	.038	-.164	-2.403	.019
	Anxiety to speak	-.271	.068	-.323	-3.976	.000
	Embarrassment while speaking	-.071	.029	-.201	-2.439	.018
	Fear to speak	-.293	.077	-.279	-3.792	.000
	Frustrations while speaking	-.073	.025	-.197	-2.880	.005

a. Dependent Variable: mean of social interaction

Key: B- unstandardized regression coefficient

beta (β)- standardized regression coefficient.

-it is a measure of how strongly each predictor variable (stuttering effects) influences the criterion variable (social interactions).

T- T-test

The results in Table 17 indicate that in model 2; all the control variables in the study

were not significant in accounting for variation in social interaction among LWS. The main predictors of social interaction were anxiety while speaking, embarrassment while speaking and self-stigma. Anxiety had the highest negative influence, (β= -0.323, $p<.05$) followed by fear, (β= -0.279, $p<.05$). Embarrassment while speaking was the third, (β= -0.201, $p<.05$) while frustration was the fourth with β= -0.197, $p<.05$, and least rated was self-stigma (β= -0.164, $p<.05$).

According to Field (2008) and Copen (2007), the negative beta-values of coefficients indicated that each predictor variable (the five stuttering effects) accounted for a deacrease in social interactions (criterion variable). This implied that for every one unit increase in anxiety, fear, embarrassment, frustrations and self-stigma accounted for a decrease in social interactions among LWS. It was evident therefore that all the five stuttering effects had a negative influence on social interactions among LWS. Anxiety to speak negatively influenced social interactions very often, while self-stigma rarely negatively influenced social interactions among LWS.

In addition, negative beta-values of coefficients of predictor variable indicated that the model summary resulted in negative variation of the criterion variable (Copen, 2007). In the present study, the five stuttering effects which consisted of predictor variable had negative beta-values, this implied that stuttering effects such as anxiety, fear, emabarassment, frustrations and self-stigma accounted for a negative variation of 57.8% (R^2 Change = .578, $p<.05$) on social interactions (criterion variable) among LWS. Stuttering effects negatively influenced social interactions among LWS by reducing social interactions among the LWS.

In order to triangulate these results, interviews were conducted among teachers and

LWS to find out how stuttering effects influenced social interactions among LWS. One hundred and four teachers (95.0%) noted that learners who stutter experienced difficulties in social interaction due to effects of stuttering.

Teacher 012 reported:

> *LWS keep to themselves, they feel discriminated by other learners as a result of stuttering. They are normally withdrawn from others during play.*

Teacher 045 reported:

> *Other learners isolate and discriminate LWS from interacting with them because they do not speak well. They even laugh at them when they get stuck on a word while talking during play activities.*

Teacher 073 reported:

> *LWS feel embarrassed when other learners laugh at the way they speak during various social activities, making them to shy away.*

Teacher 092 reported:

> *regular learners feel frustrated when they get stuck while speaking to other learners during play.*

In addition, LWS were interviewed on how stuttering effects affected social interactions. Seventy one LWS (93.0%) reported they experience severe negative consequences in social interaction as a result of stuttering.

LWS 010 said:

> *During play activities other learners isolate me in activities that require talking.*

LWS 051 said:

> *I fear interacting with other learners and teachers because they laugh at me, thus I always avoid them.*

LWS 059 said:

> *I feel frustrated when I get stuck on a word while speaking. This makes me to fear engaging in social activities involving talking.*

LWS 064 said:

> *Other learners repeat the way I talk when I repeat and get stuck on words. This makes me feel very bad, embarrassed, stay alone and avoid talking activities during play.*

From the interviews, the key stuttering effects that influenced social interactions among LWS included; self-stigma as a result of initial mistreatment by other learners and teachers, embarrassment due to being unable to speak fluently with others and fear of disfluency during social activities. From these teachers, head teachers, and LWS interview schedules revealed the effects of stuttering had a negative influence on social interaction among LWS.

Triangulation was carried out by researcher using an observation schedule to determine stuttering effects on social interaction. Learners who stutter were observed during various verbal social interaction activities at school. Such activities included social interaction with peers in class, verbal interaction with deskmate, verbal interaction teachers, storytelling, playing together with others.The number of times the children interacted with other learners and teachers were rated and analyzed. Each observation scenario took fifteen minutes. Two scenarios were observed during outside class activities and in class.

In the first scenario, LWS were observed outside the classroom. LWS were observed during games, during short break and long break. For example in school 06, LWS 13 was observed. The learner was rarely seen interacting with others. At some point the leaner could be seen moving near others and talking to a few friends. However, the

friends did not give the learner attention.

In another instance in school 15, learner 37 was seen interacting with others only once for the 20 minutes the observation was done. Most of the time the learner was isolated and lonely.

In the second scenario, observation was made while LWS were in class during social activities such as talking to desk mate, talking to teacher and talking to other members of the class. In school 14, learner 56 in class 7 was seen most of the time alone, and rarely interacted with others in class nor talked to the teacher. In school 8, LWS 25 in class eight was seen seated alone in class while others were interacting in class during the short break. The LWS never talked to other class members during the twenty minutes the observation was done.

Generally, LWS rarely reached out to others nor the teachers during social interactions. They were mostly seen talking to their desk mates whenever they needed assistance ; rarely were they seen interacting with teachers and other regular learners while in class. From the observation schedule data, LWS rarely interacted with other learners during various social activities. This implied that the effects of stuttering had a negative impact on social interactions among LWS.

The findings of this study concurs with that by Jaan (2011) who found that stuttering had social consequences for preschoolers aged 3 and 4 years old. This is because some CWS avoided speaking during play as a result of negative peer reaction to stuttering. In the present study, all the five stuttering effects negatively influenced social interactions among LWS. Anxiety had the highest negative influence (β= -0.323, $p<.05$) followed by fear, (β= -0.279, $p<.05$), embarrassment (β= -0.201, $p<.05$), frustration was the fourth with β= -0.197, $p<.05$ and finally self-stigma (β= -0.164,

p<.05).

As a result of negative coefficients of stuttering effects on social interactions, this implied that the five stuttering effects accounted for 57.8 % (R^2 Change = .578, p<.05) negative variation in social interaction among LWS. It implied that the stuttering effects negatively influenced social interactions among LWS. LWS were not able to socialize effectively as a result of avoiding anxiety to speak to others, feared to be laughed at, afraid of being frustrated and embarrassed. While a few LWS did not socialize as a result of self-stigma, where they isolated themselves from social activities that required talking. The current study was related to Jaan (2011) with regard to social interactions. It is worth noting that stuttering effects such as anxiety, fear, frustrations, embarrassment, and self-stigma negatively influenced social interactions across different age groups right from childhood to adolescence.

Findings of this study concur with those of other researchers who noted that stuttering impacts on social interactions of LWS (Gabel *et al*., 2004; Langevin & Hagler, 2004; Blood & Blood, 2004; Blood & Blood, 2007). In the present study, the five stuttering effects accounted for 57.8% (R-Square Change = .578, p<.05) of the negative influence on social interactions among LWS. In addition, the study concurred with Davis *et al.* (2007) who observed that CWS were rejected significantly more often than regular learners. Secondly, CWS were less likely to be popular. Compared to CWDS, the CWS were likely to be bullied hence seeking help from teachers and non-stuttering peers (Davis *et al.*, 2007). In the present study, stuttering effects explained significant negative variance on social interactions among LWS.

The present study was related to Davis *et al.* (2007) on the impact of stuttering on social interactions because the negative social consequences LWS faced were as a

result of the stuttering effects. The stuttering effects made them to avoid social activities that required speaking. Stuttering effects such as anxiety, frustrations, embarrassment, fear and self-stigma negatively influenced social interactions among LWS. Thus, as a result of these effects, LWS do not socialize effectively in school activities and were likely to be bullied by others.

Findings of the study agree with those by Mayo and Mayo (2010) who found out that those who stutter view stuttering as an obstacle to the formation of relationships. In the present study, LWS reported in the interview having difficulty in forming relationships with other learners and teachers**.** From the interviews, LWS feared to form relationships with others because other learners laughed at the way they spoke. As a result, LWS self-isolated themselves from others in order to avoid embarrassment and frustrations. It was evident from both studies that stuttering effects had negative consequences on the formation of relationships and interactions across all age groups from early childhood through adolescence to adulthood.

In addition, the findings of the present study concurred with Yaruss and Quesal (2004) who observed that people had a negative attitude towards stuttering. From interviews and observations made it was evident most LWS were alone in social activities and regular learners laughed at LWS when they spoke. This was due to the negative influence of stigma on social interactions between learners and LWS. Thus, as a result of self-stigma, LWS kept to themselves did not want to interact with regular learners during social activities due to fear of being laughed at, ridiculed and teased.

4.4 Influence of Stuttering Effects on Classroom Participation among LWS

This section presents results and discussions on the objective on the influence of

stuttering effects on classroom participation as a key element of educational achievement among learners who stutter. Data on classroom participation was collected using a questionnaire, coded and analyzed using means and multiple regression analysis. In order to determine the influence of stuttering effects on classroom participation among LWS, multiple regressions was carried out. Before analysis, the researcher sought to find out if the basic assumptions for multiple regressions had been met. There was no multicollinearity between the independent variables of the study. In addition, the data of individual variables had a fairly normal distribution. The results of analysis were presented in Table 18, 19, 20, 21, and 22.

4.4.1 Difficulties LWS Experienced in Classroom Participation according to LWS

Data on difficulties LWS experienced during classroom participation was coded, and analyzed using means. Results are presented in Table 18 and discussed below.

Table 18: Difficulties LWS experienced in Classroom Participation according to LWS

Statement	Mean
I shy off from asking and answering questions in class	4.11
I take longer time to answer questions in class	4.34
I am not included in group discussions by regular learners	3.71
Teachers do not give equal opportunities to all learners to ask and answer questions in class.	3.78
Other learners laugh at me when I ask or answer questions in class	4.00
I am rarely picked to make presentations in classroom	3.81
I shy off from participating in classroom activities that need speaking	4.02
I like speaking situations in the classroom (R)	4.32
I participate actively in the classroom (R)	4.38
I have difficulties in group discussions in class	3.31
I participate well in classroom discourse (R)	4.53
I have phobia attending lessons that require a lot of verbal communication	4.29
I speak fluently in class (R)	3.51
I lead in group discussions (R)	3.62
I am included in group activities that require speaking in class (R)	3.13
I hate reading sessions in class	4.15
Other learners laugh when I read passages in class	4.30
Teachers rarely involve me in class activities	3.18
Overall Mean on Classroom Participation Difficulties	**3.92**

Key: R- Reverse-coded, M- Mean

Data in Table 18 shows various variables on class participation. Results showed that LWS reported negative consequences during classroom participation. The most rated consequences by LWS during classroom participation were LWS took longer time to answer questions in class (M- 4.34), other learners laughed at LWS while reading passages in class (M- 4.30), LWS had phobia attending lessons that required a lot of verbal communication (M- 4.29), LWS hated reading sessions in class (M- 4.15), and

LWS shy off from participating in classroom activities that need speaking (M- 4.02), other learners laughed at LWS while answering and asking questions in class (M- 4.00), LWS feared asking and answering questions in class (M- 4.11), and LWS was rarely picked to make presentations in classroom (M- 3.81).

In addition, LWS reported that teachers did not give equal opportunities to all learners to ask and answer questions in class (M= 3.78), LWS was not included in group discussions by regular learners (M= 3.71), LWS had difficulties in group discussion (M= 3.31), and teachers rarely involved LWS in class activities (M= 3.18). These indicated an overall mean of 3.92 on social interaction among LWS. This implied that stuttering effects had high negative influence on classroom participation among LWS.

Regular learners were also asked to respond to a questionnaire on what they experienced about classroom participation among LWS. The results were presented in Table 19.

Table 19: Classroom Participation Difficulties among LWS According to Regular Learners

Statement	Mean
Learners who stutter are afraid of asking and answering questions in class	4.45
Learners who stutter take longer time answering questions in class.	3.53
Regular learners avoid including learners who stutter in group discussion	4.06
Teachers give equal opportunities to all learners to ask and answer questions in class (R)	3.97
Regular learners laugh at learners who stutter when answering and asking questions in class	3.48
Learners who stutter are rarely picked to make presentations in classroom	3.22
Learners who stutter are shy when participating in classroom activities that need speaking	4.30
Learners who stutter like speaking situations in the classroom (R)	3.83
Teachers give learners who stutter enough time to answer questions in class (R)	4.09
Learners who stutter participate actively in classroom (R)	3.34
Learners who stutter have difficulties in group discussions in class	4.29
Learners who stutter participate well in class discourse (R)	3.66
Learners who stutter have phobia attending lessons that require a lot of verbal participation	4.21
Learners who stutter speak fluently in class (R)	4.28
LWS rarely lead in group discussions	4.63
Learners who stutter are discriminated against in group activities that require speaking in class	3.66
Overall Mean on Classroom Participation difficulties	**3.94**

Key: M- Mean, R- Reverse-coded

From Table 19, most regular learners rated LWS as rarely participating in group discussions (M- 4.63), LWS were afraid to ask and answer questions in class (M- 4.45), LWS do not speak fluently in class (M= 4.28), regular learners avoid including LWS in group discussions (M= 4.06), teachers do not give LWS enough time to answer questions in class (M= 4.09), LWS have difficulties in group discussions in

class (M= 4.29). Other responses included LWS were rarely picked to make presentations in classroom (M= 3.22), LWS were discriminated in group activities that required speaking in class (M= 3.66), LWS did not participate well in class discourse (M= 3.66), and regular learners laughed at LWS when they answered and asked questions in class (M= 3.48). In overall, the mean classroom participation status as rated by regular learners was M= 3.94. This implied most LWS had difficulties in class participation according to regular learners.

Therefore, these findings implied that most LWS faced difficulties in class participation ranging from asking and answering questions, presenting work in class, reading passages in class and in participating in group discussions as a result of stuttering.

Findings of this study concurred with study findings by Klompas and Ross (2004), who observed that majority of teachers and regular learners at school perceived stuttering as negatively impacting on the participation of LWS. In the present study, LWS reported that they faced difficulties in classroom participation (Mean= 3.92) and regular learners reported an overall mean rating of 3.94 on difficulties LWS faced during classroom participation. Both LWS and regular learners agreed LWS experienced difficulties in classroom participation. Learners who stutter experienced difficulties in classroom as a result of lack of fluency when asking and answering questions, participating in group discussions, and engaging in classroom discourse. The current study and Klompas and Ross' (2004) study were related with regard to participation. It was worth noting that LWS in primary schools experienced difficulties in class participation as a result of stuttering effects.

4.4.2 Regression Analysis on Influence of Stuttering Effects on Classroom Participation

In order to determine the influence of stuttering effects on classroom participation among LWS, multiple regression analysis were run to predict classroom participation from the stuttering effects. Before analysis, the researcher sought to find out if the basic assumptions for multiple regressions had been met. There was no multicollinearity between the independent variables of the study. In addition, the data of individual variables had a fairly normal distribution.

The variables of the study were entered in two steps. The first was for control variables which included the age, socio-economic status of parents of the LWS, and gender of LWS. The second step included the controlled variables and the five stuttering effects (anxiety, fear, frustrations, self-stigma and embarrassment to speak among LWS). Results were presented in Tables 20, 21 and 22.

The results of model significance from regression analysis were presented in Table 20.

Table 20: Model Significance on Influence of Stuttering Effects on Classroom Participation

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.365	6	.227	3.143	.009[a]
	Residual	4.850	69	.072		
	Total	6.214	75			
2	Regression	4.652	11	.423	16.787	.000[b]
	Residual	1.562	64	.025		
	Total	6.214	75			

a. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father
b. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking
c. Dependent Variable: mean of classroom participation

The results in Table 20 indicated that the overall model was significant F (11, 64) =16.787, $p<.05$. This implied that the model on the influence of stuttering effects on classroom participation was significant.

Results of the model summary on the influence of stuttering effects on classroom participation from multiple regressions were presented in Table 21.

Table 21: Regression Analysis on Model Summary on Influence of Stuttering Effects on Classroom Participation among LWS

Model					Change Statistics				
	R	R^2	Adjusted R^2	Std. Error of Estimate	R^2 Change	F Change	df1	df2	Sig. F Change
1	.469[a]	.220	.150	.26904	.220	3.143	6	69	.009
2	.865[b]	.749	.704	.15873	.529	26.096	5	64	.000

a. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father

b. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking

c. Dependent Variable: mean of classroom participation

Key: R- a measure of correlation between the observed values of the criterion variable and its predicted values.

R^2- indicates proportion of variable in the criterion variable which is accounted for by the model.

Adjusted R^2- indicates number of predictor variables in the model and the number of observations (participants) that the model is based on.

Results in Table 21, model 2 indicated that before controlling for the effect of socio - economic status, effects of stuttering explained 70.4% (adjusted R^2 = .704), $p<.05$ variance in classroom participation, Adjusted R^2=.704. After controlling for the effect of these intervening variables, stuttering effects explained 52.9% (R^2 Change= .529), $p<.05$ variation in classroom participation.

According to Field (2008) and Brace *et al.* (2006), R^2- Change of .5 and above, $p<.05$ implied significance. In the present study, R^2-Change of .529, $p<.05$ was therefore significant. It further implied that stuttering effects explained 52.9% of classroom participation and the remaining 47.1% was explained by other factors.

Results of coefficients on influence of stuttering effects on classroom participation

were analyzed and presented in Table 22.

Table 22: Results of Coefficients on Influence of Stuttering Effects on Classroom Participation among LWS

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.364	.292		11.509	.000
	Gender of pupil	-.117	.055	-.241	-2.144	.036
	Occupation of the father	.052	.020	.305	2.553	.013
	Occupation of the mother	.030	.036	.094	.823	.413
	Level of education of father	-.060	.028	-.277	-2.178	.033
	Level of education of mother	.041	.024	.218	1.691	.096
	Age of the pupil	-.057	.033	-.192	-1.718	.090
2	(Constant)	1.814	.408		4.443	.000
	Gender of pupil	-.044	.034	-.091	-1.292	.201
	Occupation of the father	.028	.013	.165	2.166	.034
	Occupation of the mother	-.011	.022	-.033	-.482	.631
	Level of education of father	-.025	.017	-.113	-1.449	.152
	Level of education of mother	.017	.015	.092	1.153	.253
	Age of the pupil	-.016	.021	-.054	-.779	.439
	Self-Stigma	-.146	.043	-.256	-3.404	.001
	Anxiety to speak	-.187	.077	-.218	-2.438	.018
	embarrassment while speaking	-.087	.033	-.242	-2.668	.010
	Fear	-.262	.087	-.246	-3.025	.004
	Frustrations	-.069	.029	-.181	-2.405	.019
a. Dependent Variable: mean of classroom participation						

Key: beta (β) - standardized regression coefficient.
-it is a measure of how strongly each predictor variable influences the criterion variable.

Results of regression analysis from Table 22, shows that the five stuttering effects in model 2 significantly negatively predicted the level of classroom participation among LWS. Self-stigma had the highest significant negative influence on classroom participation, (β= -.256, $p<.05$). Fear was the second in the category with β= -.246, $p<.05$ while embarrassment while speaking was the third with β= -.242, $p<.05$. Anxiety to speak also had a unique negative contribution to classroom participation, (β=-.218, $p<.05$), while frustrations while speaking had β= -.181, $p<.05$. The results thus indicated that all the five stuttering effects were significant contributors to classroom participation among LWS.

According to Field (2008), negative beta values implied for every one unit increase in predictor variable resulted in a decsease in criterion variable. In the present study therefore, all the five stuttering effects had negative beta values, this implied that for every one unit increase in each stuttering effect resulted to a decrease in the classroom participation. This implied that stuttering effects such as self-stigma, fear, embarrassment, anxiety and frustrations negatively influenced classroom participation among LWS in primary schools. Therefore, each of the five stuttering effects accounted for a decrease in classroom participation among LWS. The overall decrease in classroom participation as a result of stuttering effects was accounted for by 52.9% (R^2 Change= .529). The remaing 47.1% was explained by other factors.

Further triangulations of study findings were done using interview schedules. Teachers and LWS were asked to respond to how stuttering effects influenced classroom participation among LWS. Ninety seven of the teachers (90%) reported that effects of stuttering influenced classroom participation.

Teacher 036 said:

> *Learners who stutter do not participate in class discussions because they fear being laughed at by their classmates who do not stutter.*

Teacher 055 reported:

> *Learners who stutter take long to respond to questions and read a passage in class. This has made LWS to fear answering and asking questions in class.*

The findings of the interviews were in line with quantitative data which indicated that effects of stuttering negatively influenced classroom participation among LWS.

Further, teachers were interviewed on how effects of stuttering influenced LWS participating in group activities while in class.

Teacher 63 reported:

> *Most learners who stutter withdraw from the rest during group discussions and are always passive. Infact, some LWS do not like attending group discussions, they normally pretend to be sick.*

Teacher 71 said:

> *LWS are inactive in group discussions. They hardly talk when in groups because they feel embarrassed when others imitate the way they speak.*

Teacher 94 said:

> *Learners who stutter fear participating in group discussion as they are afraid of being laughed and ridiculed as the way they speak by other learners.*

LWS were also interviewed on how stuttering effects influenced classroom participation. Ninety percent (68) of LWS reported that effects of stuttering prevented them from participating in class activities.

Learner who stutter 07 said:

> *I fear answering and asking questions in class because other learners laugh at me when I try to ask and answer questions in class.*

LWS 69 reported:

> *I am not given enough time to answer questions as teacher has no time for me.*

LWS 27 reported:

> *I am just afraid to talk because I feel pain, frustrations and embarrassment when I get stuck on a word while answering a question and other learners laugh at me. This makes me to fear talking in class. In fact most teachers do not give me enough time to ask nor answer a question in class.*

Therefore, from the verbatim reports, the key stuttering effects that negatively influenced classroom participation among LWS were: LWS feared being laughed at by peers when asking and answering questions in class, self-stigma as LWS withdrew from others and were passive during group discussions, some LWS failed to attend group discussions to avoid frustrations, teachers did not give LWS time to ask and answer questions, and LWS felt pain, frustration and embarassment when stuck on a word because others laughed as the learner struggle to pronounce words. Thus, stuttering effects such as fear, frustrations and embarrassment resulted in LWS shying away from participating in class activities.

In order to validate the results further on classroom participation, triangulation was carried out using an observation schedule to find out how stuttering effects affect LWS in classroom participation. Data on class participation was collected using an observation schedule. Two main scenarios were observed across classes: teacher-LWS participating in class and secondly LWS- regular learner working together in class. Specifically the following activities were observed: verbal participation, verbal participation in group discussion, asking and answering questions, consulting with other learners in class, reading a passage in class. Each observation scenario lasted for 15 minutes. The results were analyzed thematically as shown:

In the first scenario, the analysis were concern with how LWS and the teacher were working together in terms of LWS asking and answering questions as well as volunteering to read in class. Results indicated that most LWS did not want to engage with the teacher in asking and answering questions, and LWS hardly volunteered to read a passage in the classroom. Only 2 students were observed in class eight volunteering to read an English comprehension passage across all the schools. A few who tried to answer a question in class had to be nominated and persuaded by the teacher. None of the LWS participated voluntarily in either asking or answering questions in the classroom.

In scenario two, observations were made on how LWS and regular learners worked together in class in terms of class discussion, group discussion, consulting other learners in class, working together with desk mate, and sharing textbook with desk mate. From the observations, it was apparent that LWS rarely participated in class discussions; LWS rarely consulted with other learners' on areas of difficulty in class activities; and a few LWS were seen working together with class mates only in areas the teacher demanded they work together in. Most LWS shared text books with regular learners but with minimal talk observed. Therefore, it was evident LWS rarely participated in classroom activities alongside others, especially those that required talking. This implied that stuttering effects such as fear, frustrations and embarrassment negatively influenced classroom participation.

Therefore, results from quantitative data generated using means and regression analysis as well as qualitative data obtained from the interview and observation schedules, showed that stuttering effects negatively influenced classroom participation among LWS. This is because as a result of fear, anxiety, frustrations,

embarrassment and stigma LWS hardly volunteered to participate in classroom activities such as answering and asking questions, participation in group discussion, reading a passage and presenting work in class. A few who participated were either ordered to do so by the teacher. A majority of them shy away from participating in classroom activities altogether.

Findings of this study concur with those of Klompas and Ross (2004), who established that stuttering impacted negatively on the classroom participation of persons who stutter. In addition, the studies concur with Jaan (2011), who noted that stuttering had an impact on the participation of pre-schoolers in play activities. In the present study, results of multiple regression analysis indicated that stuttering effects such as self-stigma (β= -.256, $p<.05$), fear (β= -.246, $p<.05$), embarrassment while speaking (β=-.242, $p<.05$)anxiety to speak (β=-.218, $p<.05$), and frustrations while speaking (β= -.181, $p<.05$) negatively influenced classroom participation among LWS.

According to Copen, West, and Aihen (2003), negative beta-values of a coefficient from a regression analysis implies that for every one unit increase in predictor variable results in a decrease in criterion variable. In the present study, negative beta values of coefficients of stuttering effects such as self-stigma, fear, embarrassment, anxiety and frustrations implied that for every one unit increase of each stuttering effect, there was a decrease on classroom participation among LWS. This stuttering effects in total accounted for 52.9% (R^2 Change= .529, $p<.05$) variation in classroom participation among LWS. Therefore, stuttering effects accounted for 52.9% negative influence on classroom participation among LWS.

The present study concurs with Jaan (2011) who observed that stuttering impacted on participation of preschoolers in play activities while at home, while the present study found out that stuttering effects had 52.9% negative influence on classroom participation among young adolescents' learners who stutter in primary schools. It can be concluded that stuttering effects such as anxiety, fear, frustrations, embarrassment and self-stigma negatively influenced participation of learners who stutter in various activities across all age groups both at home and in classroom.

In addition, findings of this study concur with Klompas and Ross (2004) who observed that teachers and regular learners perceived stuttering as having an impact on the participation of learners who stutter. In the present study, all the five stuttering effects negatively influenced classroom participation among LWS; 52.9% (R^2 Change= .529, $p < .05$). Klompas and Ross' (2004) indicated that stuttering influenced participation in general.The present study found out that stuttering effects such as self-stigma, fear, embarrassment, anxiety and frustrations negatively influenced classroom participation among LWS. This is because as a result of the five stuttering effects, the LWS were unwilling to ask nor answer questions, were reluctant to actively participate in group activities nor volunteer to read a passage in class. In addition, the present study was carried out on adolescent LWS themselves, unlike Klompas and Ross (2004) study thas was carried on teachers and regular learners.

Jaan's (2011) study focused on participation in play activities by children aged 3 and 4 years. The present study focused on determining the influence of stuttering effects on classroom participation among LWS in primary schools. Despite the differences between the current study and the previous studies, it is important to note that

stuttering effects influence participation among LWS across all the age groups, right from childhood to adolescence stage.

Findings of present study concurred with study findings by Mkala (2013), who noted that students with speech impairment feared to participate actively in classroom learning activities because they were afraid of being laughed at by their classmates when speaking. Findings in the present study show that LWS rarely participated in class as a result of self-stigma (β= -.256, $p<.05$) and fear to speak (β= -.246, $p<.05$). From regression model summary, stuttering effects accounted for 52.9% (R^2 Change= .529), $p<.05$ negative variance in classroom participation. In addition, from the qualitative data from interviews and observations on classroom participation, teachers and LWS themselves reported as a result of fear of being laughed at and teased by others. Due to embarrasment and frustration, in class, LWS did not ask nor answer questions in class, withdrew from group discussions and rarely read passages in class. From Mkala (2013) findings and the results of the present study, it is important to note that stuttering effects such as fear, self-stigma, frustrations and embarrassment inhibit LWS from participating in classroom activities.

4.5 Influence of Stuttering Effects on Vocational Aspirations among LWS

Data on the effects of stuttering on vocational aspirations among LWS was collected using a questionnaire, coded, analyzed, and presented in Tables 23, 24, 25, 26, 27 and 28.

4.5.1 Preferred Vocational Aspirations according to LWS

Data on vocational aspirations that were preferred by LWS was analyzed using means and presented in Table 23.

Table 23: Preferred Vocational Aspirations according to LWS

	Vocation	M
1	LWS prefer teaching profession	2.75
2	LWS prefer engineering profession	4.45
3	LWS prefer profession of being a lawyer	2.30
4	LWS prefer preaching as a vocation	2.13
5	LWS prefer being a poet	2.66
6	LWS prefer business profession	4.04
7	LWS prefer farming profession	4.53
8	LWS prefer mechanic profession	3.86
9	LWS prefer carpentry	3.58
10	LWS prefer being a politician	2.43
11	LWS prefer artist profession	4.51
12	LWS prefer being a medical doctor or a nurse	3.96

KEY: **M**- Mean

Table 23 shows results on preferred vocational aspirations according to learners who stutter. The preference of vocations was rated as follows: farming (Mean= 4.53), being an artist (Mean= 4.51), engineering (Mean= 4.45), medical doctor or nurse (Mean= 3.96), mechanic (Mean= 3.86), carpentry (Mean= 3.58). Least rated vocations in terms of preference included: teaching (Mean= 2.75), poetry (Mean= 2.66), politician (Mean= 2.43), preaching (Mean= 2.13). Vocations that were preferred to a large extent required less verbal communication, while vocations that were preferred by LWS to a smaller extent required much verbal communication. This implied that LWS preferred vocations that required less talking as compared to vocations that required much talking.

Findings of this study were in agreement with study findings by Gabel, Blood, Tellis

and Althouse (2004), who noted that some careers were inappropriate for persons who stutter. In the present study, careers which were least preferred by LWS included; teaching (Mean= 2.75), poetry (M= 2.66), politicking (Mean= 2.43), preaching (Mean- 2.13). Teaching, poetry, politics and preaching are vocations that require much verbal communication. The least rated vocations by LWS demanded much verbal communication. These vocations that were less preferred by LWS required much talking, while vocations that were high rated by LWS such as being a farmer, an artist and an engineer require less talking. This implied that LWS hated vocations that demanded much talking. Vocational aspirations of LWS tended to prefer vocations that demand less talking activities, such as farming and engineering; and least preferred vocations that demanded much talking such as teaching. This might be as a result of fear to stutter in case the learner pursued vocations that demand much talking.

The present study is related to Zhang *et al.* (2009), and Klompas and Ross (2004) with regard to impact of stuttering on vocation, it is worth noting that stuttering effects negatively influenced vocational aspirations among LWS. This is because most LWS were unwilling to persue vocations such as teaching, politicking and preaching, because LWS feared the vocations that required much talking as a result of stuttering condition.

From interviews, LWS had vocational aspirations with preference to vocations that require less talking such as engineering than a politician. Findings by Klein and Hood (2004) were closely related to present findings; both agreed stuttering had impact on vocation. The present study found out that as a result of stuttering effects, LWS

preferred vocations that require less verbal communication. Therefore, stuttering effects negatively influenced vocational aspirations, a key educational achievement element among LWS.

The current study differed with study findings by Klompas and Ross (2004), who noted that PWS did not have difficulties on choice of occupation, ability to obtain work and form relations with others at work. In the current study, LWS preferred to be a farmer (M= 4.53), an artist (M= 4.51), an engineer (4.45) or a doctor as opposed to being a teacher (M= 2.75), preacher (2.13) or politician (2.43). This was because they preferred vocations that required little talking.

Based on the findings of the study, it is important to observe that LWS had difficulties in vocational aspirations as a result of negative stuttering effects as opposed to Klompas and Ross (2004) findings that indicated persons who stutter had no difficulties in choice of job or vocation. Thus, stuttering effects such as anxiety, self-stigma, frustrations, fear and embarrassment negatively influenced vocational aspirations among LWS in primary schools.

4.5.2 Reasons for Preferring Vocational Option Chosen

Data on reasons for preferring the vocational option chosen was collected using a questionnaire, coded, analyzed and presented in Table 24.

Table 24: Reasons for Preferring the Vocational Option chosen in Question One for a Person who stutters (LWS, n= 76)

Reason	f	%
The vocational option requires less talking	47	61.8
The vocational option earns more money	14	18.4
The vocational option is interesting	13	17.1
The vocational option is more demanding in terms of time and work	2	2.6
Total	**76**	**100.0**

Key: **f**- frequency, **%**- percentage

Table 24 shows data on reasons that led LWS to choose particular vocations. From Table 21, most LWS indicated that they preferred the chosen professions. This was because it required less talking 47 (61.8%), because it earns more money 14 (18.4%), because the vocation is interesting 13 (17.1%), and that the vocational option is more demanding in terms of time and work 2 (2.6%). Therefore, most LWS indicated that they preferred the chosen vocation because it required less talking.

Findings of this study concurred with those by Gabel *et al.* (2004) who observed that university students reported an overall perception that stuttering affected career opportunities among PWS; 20 careers were judged to be inappropriate choices for people who stutter. Conversely, 23 careers were judged to be appropriate choices for people who stutter.. In the present study, most LWS preferred the chosen profession because it required less talking 47 (61.8%). From the results in Table 22, vocations that were preferred included farming, being an artist, engineering, and medicine. This was because the professions required less talking. Thus, LWS felt that if they pursue

vocations that require less talking in future, they might not be exposed to negative stuttering effects such as fear, anxiety, and stigma at the work place. Therefore, stuttering effects had significant negative influence on vocational aspirations among LWS. It is worth noting that Gabel *et al.* (2014) and the present studies agreed on role entrapment in vocational aspirations among PWS. Both studies indicated stuttering affected career choice in different age groups right from primary school to university. However, the present study found out that LWS preferred vocations that require less use of spoken communication.

4.5.3 Reasons for not Preferring the Least Rated Vocation

Learners who stutter were asked to choose reasons for not preferring the least rated vocation from the options given. Data on reasons why LWS rated least some professions was coded and analysed and presented in Table 25.

Table 25: Reasons for not Preferring the least Rated Vocation

Response	f	%
LWS fear career that require much talking	53	69.7
LWS hate career that has low pay	7	9.2
The career is demanding	10	13.2
The career is boring	6	7.9
Total	**76**	**100.0**

f- frequency

%- percentage

Table 25 shows data on responses of LWS regarding why they did not prefer the career in question. From the table, most LWS indicated they fear careers that require much use of spoken communication 53 (69.7%) and that the career is demanding 10 (13.2%). A few indicated that they hate the career because it has low pay 7 (9.2%) while the least rated reason for disliking the career is that it was boring 6 (7.9%). Therefore, LWS did not prefer the career that they least rated because the career requires much talking.

Findings of the present study concurred with findings by Zhang *et al*. (2009) findings who found out that stuttering impacted negatively on the quality of life of PWS such as vocation. In the present study, most LWS rated they were afraid of persuing careers that require much talking 53 (69.7%). This was as a result of inadequate fluency. which made them to be afraid of careers that required much talking in order to avoid being frustrated and embarrassed in future while talking at work place.

4.5.4 The Extent to which the Effects of Stuttering Affect Vocational Aspirations among LWS

LWS were asked to respond to what extent the effects of stuttering affect their vocational aspirations. Data on the extent to which the effects of stuttering affect vocational aspirations among LWS was collected, coded, analyzed and presented in Table 26.

Table 26: Extent to which Effects of Stuttering Affect Vocational Aspirations among LWS (N= 76 LWS)

Response	F	%
To a very large extent	28	36.8
To a large extent	15	19.7
To some extent	17	22.4
To a small extent	8	10.5
Not at all	8	10.5
Total	**76**	**100.0**

Key: f- frequency, **%-** percentage

From Table 26 LWS indicated the extent to which effects of stuttering affect vocational aspirations as follows: to a very large extent 28 (36.8%), to some extent 17 (22.4%), to a large extent 15 (19.7%), to a small extent 8 (10.5%), and not at all 8 (10.5%). Most (36.8%) of LWS indicated that the effects of stuttering affected their vocational aspirations to a very large extent (36.8%) while few indicated to a small extent (10.5%), and not at all (10.5%). This means that most LWS agreed stuttering effects affected vocational aspirations among LWS.

Findings of this study disagreed with study findings by Klompas and Ross (2004), who indicated that the majority of PWS perceived stuttering did not have an adverse

effect on the choice of occupation, ability to obtain work, and relationships with managers and co-workers, although it was perceived to influence their work performance and hamper their chances for promotion. In the present study, the majority of LWS noted that stuttering effects influenced vocational aspirations among LWS to a very large extent (28, 36.8%) and to a large extent (15, 19.7%). Unlike in Klompas and Ross (2004), effects of stuttering affected vocational aspirations among LWS. This is because LWS did not prefer vocations that involved much talking. This was in order to avoid embarrassment and frustrations in future vocation.

4.5.5 Results of Interview Schedule from LWS on Influence of Stuttering Effects on Vocational Aspirations

To validate the quantitative data on the influence of stuttering effects on vocational aspirations, the researcher further triangulated the quantitative results with results from the interview schedule. From the interview schedule, several issues arose.

LWS were interviewed on how they felt stuttering effects influenced their vocational aspirations. Seventy three LWS (96.0%) reported that stuttering effects influenced their vocational aspirations. For example,

LWS 015 reported:

> *I would prefer a job that involves less talking and dealing with few people. This will help me to avoid stuttering a lot while talking.*

LWS 46 reported:

> *I would like to be an engineer so that I do not talk much. I would go for work that does not involve much talking to avoid being laughed at by others as I talk.*

LWS 052 reported:

> *I would like to a job that doesn't involve much talking so that I don't feel*

embarrassed at work place. I fear jobs that require much verbal communication because of my condition.

The second question with regard to vocational aspirations was on the type of vocation they would like to pursue after school. Most LWS rated they would prefer to pursue vocations such as engineering, being a doctor, farming, pilot, carpentry, being a shopkeeper, and mechanic. All these vocations listed above by LWS in the interview require less talking. When more information was probed as to why they preferred the vocation, most LWS reported they prefer the vocation noted because it require less talking and they fear if they do jobs that require much talking, they will be embarrassed and frustrated at work place as a result of stuttering.

In addition, teachers and head teachers were also interviewed on the effects of stuttering on vocational aspirations. Teachers were interviewed on what advice would you give a LWS in terms of vocational choice. Ninenty two teachers (85.0%) interviewed reported they would advise a LWS to pursue a vocation that requires less talking so that the child does not suffer from frustrations and embarrassment as a result of stuttering.

Teacher 72 said:

> *I would advise a learner who stutters to undertake vocations that do not require too much talking to avoid frustrations and embarrassment at work place as a result of stuttering.*

Teacher 83 said:

> *I would advise LWS to pursue a job such as engineering because it requires less verbal communication. This would make me the learner to avoid being frustrated and embarrassed at work place in futat work place in future as a result of stuttering when talking.*

From the interviews, both LWS reported they would pursue vocations that require less talking such as engineering. This was in order to avoid frustrations and

embarrassment that would arise if they pursued vocations that required much talking. From teachers' views, they concurred with LWS. Teachers felt LWS should pursue vocations that do not require much talking to avoid frustrations and embarrassment at work place in future as a result of stuttering.

Therefore, stuttering effects negatively influenced vocational spirations among LWS.

4.6 Influence of Stuttering Effects on Academic Performance among LWS

Academic performance test was administered to LWS in class eight, seven, and six. A correlation of the effects of stuttering per class was done against the mean total marks per class. The intervening variables were controlled through partial correlation. The results of correlation are presented in Table 27, 28, and 29.

Table 27: Results of Correlation on Influence of Stuttering Effects on Academic Performance among LWS in Class 8

Stuttering effects	Academic Performance	Significance Level
Anxiety	-0.64**	0.001
Fear	-0.817**	0.000
Frustration	-0.914**	0.000
Self-stigma	-0.620**	0.001
Embarrassment	-0.889**	0.000

Table 27 shows results of correlation for class eight indicating that the key effects of stuttering that negatively influenced academic performance that were significant included: frustrations to speak (-0.914), $p < 0.05$, embarrassment when speaking (-0.889), $p < 0.05$, fear to speak (-0.817), $p < 0.05$, anxiety to speak (-0.640), $p < 0.05$,

and self-stigma (-0.620), $p< 0.05$. From the findings of the study, frustrations while speaking had the highest negative relationship to academic performance among LWS, while self-stigma was the least. To estimate the influence of each of stuttering effects on academic performance, correlation coefficient (r) of each effect was squared (R^2) then converted to percentages. For example, anxiety had (R^2) of .4096. This implied anxiety accounted for 40.96% of the negative variation on academic performance among LWS in class eight. Frustrations to speak had (R^2) = .8354, accounting for 83.54% negative influence on academic performance. Embarrassment had (R^2) = .7903 (79.03%) negative variance, fear to speak at (R^2) =.6675, 66.75%, and self-stigma accounting for (R^2) = .3844 (38.44%) negative influence on academic performance among LWS in class eight. Therefore, all the five stuttering effects were significant contributors to poor academic performance among LWS.

Further correlation was done for learners in class seven. The means for each of the five effects of stuttering was correlated against the mean standardized total marks for all the learners in class seven who stutter. The results of the correlation were presented in Table 28.

Table 28: Results of Correlation on Stuttering Effects against Academic Performance among LWS in Class Seven

Stuttering effects	Academic Performance	Significance Level
Anxiety	-0.408**	0.060
Fear	-0.817**	0.000
Frustration	-0.836**	0.000
Self-stigma	-0.662**	0.001
Embarrassment	-0.793**	0.000

Results in Table 28, indicated that apart from anxiety (-0.408), p< .06, the four other stuttering effects significantly had a negative relationship on academic performance among LWS in class seven. Frustrations while speaking (-0.836) p< .05, fear (-0.817) p<.05, embarrassment while speaking (-0.793) p< .05, and self-stigma (-0.662) p< .05. Therefore, anxiety did not have a significant relationship with academic academic performance among LWS in class seven. Frustrations while speaking (-0.836) p<.05, embarrassment while speaking (-0.793) p< .05, and self-stigma (-0.662) p< .05. Anxiety had no significant relationship to academic performance in class seven. This was because its p-value was more than .05.

According to Cohen, 2007; Brace, Kemp, and Snelgar (2006), a correlation coefficient of -0.7, p< .05 implied a strong negative correlation. In the present study, frustrations, fear and embarrassment had a strong negative relationship to academic performance. This is because they had a correlation coefficient of -0.7 and above. Self-stigma had a moderate negative relationship to academic performance in class seven. This means that there was a negative relationship between the stuttering effects and academic performance among LWS in class seven. The negative correlation coefficients implied that for every one unit increase of each stuttering effect apart from anxiety, there was a decrease in academic performance among LWS in class seven (Cohen, 2007). To further account for the influence of each stuttering effect on academic performance, correlation coefficient (r) was squared to give the coefficient of determination (R^2). This enabled the researcher to account for how much each stuttering effect influenced academic performance among LWS in class seven (Brace *et al.*, 2006). Frustrations to speak had the highest negative influence at R^2= .6989 (69.89%), followed by fear to speak, R^2= .6675 (66.75%), embarrassment while speaking, R^2= .6288 (62.88%), and least was stigma, R^2= .4382 (43.82%). Anxiety did not have meaningful negative

effect on academic performance, this is because r was not significant. Therefore, from the findings of the study frustrations, fear, embarrassment and self-stigma negatively influenced academic performance among LWS in class seven.

Further, a correlation was done on the stuttering effects against academic performance among LWS in class six. The intervening variables were controlled through partial correlation. The results of the correlation were presented in Table 29.

Table 29: Results of Correlation of Stuttering Effects on Academic Performance among LWS in Class Six

Stuttering effects	Academic Performance	Significance Level
Anxiety	-0.488**	0.0001
Fear	-0.731**	0.000
Frustration	-0.717	0.000
Self-stigma	-0.595**	0.001
Embarrassment	-0.844**	0.000

From Table 29, all the five stuttering effects had a significant negative relationship on academic performance among LWS in class six. Embarrassment to speak (-0.844) $p < .05$, fear to speak (-0.731) $p < .05$, frustrations while speaking (-0.717) $p < .05$, self-stigma (-0.595) $p < .05$ and anxiety (-0.488) $p < .05$.

In the present study, all the five stuttering effects had a negative relationship on academic performance among LWS in class six. Embarrassment, fear and frustrations had a strong negative relationship to academic performance among LWS

in class six, while self-stigma and anxiety had a moderate negative relationship to academic performance among LWS in class six. A negative correlation coefficient implied that there was a negative relationship between stuttering effects and academic performance.

To determine how each the stuttering effects accounted for academic performance, correlation significant (r) for each effect was squared to give the coefficient of determination (R^2) which was later converted into the percentage of influence (Cohen *et al.,* 2003). The stuttering effect that influenced academic performance most negatively was embarrassment followed by speaking, R^2 = .7123 (71.23%); fear to speak, R^2 = .5344 (53.44%); frustrations, R^2 = .5141 (51.41%), self-stigma, R^2 = .3540 (35.40%) and the least negative variance on academic performance was as a result of anxiety to speak, R^2 = .2381 (23.81%). Thus, the highest effect of stuttering that negatively influenced academic performance among LWS in class six was embarrassment, while the least was anxiety.

Therefore, from the correlation and R^2 results of class 8, 7, and 6 it was evident that stuttering effects negatively influenced academic performance among LWS in primary schools apart from anxiety which had no significant relationship to academic performance among LWS in class seven.

The findings were further triangulated through an interview schedule. LWS, teachers and head teachers were interviewed on how stuttering influenced academic performance among LWS. Eighty three teachers (90.00 %) reported stuttering effects negatively influenced overall academic performance among LWS.

Teacher 004 said,

Learners who stutter do not participate in class because they fear being laughed at when they stutter as they speak. This leads to poor academic performance among them.

LWS were interviewed on how the effects of stuttering influence their academic performance. Seventy two (95.0%) reported stuttering affects their academic performance.

LWS 23 said,

> *I do not perform well in class because I fear asking things which I do not know because other learners laugh at me. Unfortunately, most of the things I do not get clarification from the teacher are often set in exams and I end up failing.*

LWS 59 reported:

> *My performance in class does not reflect my full potential. I could be doing better if I was not stuttering. I fear asking and answering questions in class because other learners laugh at me. Teachers ignore me most of the time in class, hence I do not participate much. This has affected me negatively in my academic work and in exams.*

LWS 068 reported:

I am not doing well in class as a result of being discriminated by my friends in class activities. This impacts negatively on my academic performance.

Results from the interviews from LWS and teachers indicated that the majority of respondents noted LWS do not perform well in class because they fear to participate in class which in turn affects their overall academic performance in terms of exams. Thus, it is evident that learners who stutter performed poorly in class as a result of stuttering effects such as fear to participate in class activities.

Findings of this study concur with findings by Rees and Sabia (2011) who asserted that learners whose language is impaired are likely to be treated differently by

teachers and may suffer from reluctance to ask questions and provide feedback in the classroom. In the present study, results from interviews reported that the majority of LWS fear to ask and answer questions in class and teachers also ignore them resulting in poor academic performance. In addition, current results concur with Dembudzo and Schulze (2013) findings who observed that speech impairments' such as stuttering may handicap the learner's educational performance because frequent criticism and demands for better speech production from LWS may influence their self-concept negatively, hence impacting negatively on their academic performance.

In the present study, all the five stuttering effects negatively influenced academic performance among LWS in class six, seven and eight, except anxiety among LWS in class seven. For example, anxiety had (R^2) of .4096. This means anxiety accounted for 40.96% negative variation on academic performance among LWS in class eight. Frustrations stood at (R^2) = .8354, accounting for 83.54% negative influence on academic performance. Next was embarrassment, (R^2) = 7903 (79.03%) negative variance, fear to speak, (R^2) =.6675, 66.75%, and self-stigma accounts for (R^2) = .3844 (38.44%) negative influence on academic performance among LWS in class eight. Frustrations was rated at (R^2= .6989, 69.89%), followed by fear to speak, R^2= .6675 (66.75%), embarrassment while speaking, R^2= .6288 (62.88%), and stigma, R^2= .4382 (43.82%). While embarrassment while speaking, R^2 = .7123 (71.23%); fear, R^2 = .5344 (53.44%); frustrations, R^2 = .5141 (51.41%), self-stigma, R^2 = .3540 (35.40%), and anxiety, R^2 = .2381 (23.81%) negatively influenced academic performance in class six.

Frustrations negatively influenced academic performance across classes, it influenced 83.54% in class 8, 69.89% in class seven and only 51.41% in class 6.

These implied that the higher the class, the higher frustrations resulting to higher negative influence. This is as a result of huge academic demands in higher classes, which require a lot of verbal communication leading to high negative influence of stuttering effects such as frustrations.

Therefore, it is important to note that the five stuttering effects negatively influenced academic performance among LWS in primary schools. The current findings were related with Rees and Sabia (2011) and Dembudzo and Schilze (2013) studies with regard to impact of stuttering on academic performance. It is worth noting however, stuttering effects influence academic performance in all subjects among LWS.

Findings of this study concur with study findings by Rees and Sabia (2011) who observed that individuals who stutter have lower grades in mathematics and reading because stuttering interfered with language, which is the main mode in production and sharing of knowledge. Secondly, Rees and Sabia argued that learners whose language is impaired are likely to be treated differently by teachers and may suffer reluctance to ask questions and provide feedback in classroom. From the present study's interview schedule, teachers reported that LWS perform poorly as a result of inadequate participation in class due to fear of being laughed at. This led to poor academic performance. Therefore, from the findings of Rees and Sabia (2011) and the findings of the present study, it is true stuttering influences academic performance negatively. However, it is worth noting that stuttering effects such as fear participate in class activities lead to poor academic performance among LWS in primary schools.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS FOR FURTHER STUDIES

5.1 Summary of Findings

Summary of the study findings on how stuttering effects influenced educational achievement were summarized per the objectives of the study as follows:

5.1.1 Extent to which Stuttering Effects occur Among Learners who Stutter in Kakamega County

The extent to which stuttering effects occurred among LWS were determined by the means as follows; fear to speak (M= 4.5421), frustrations while speaking (M= 4.4507), anxiety to speak (M= 4.3402), embarrassment while speaking (M= 4.30621) and self-stigma as a result of stuttering (M= 4.2305). The overall extent to which stuttering effects occurred among LWS in Kakamega County was very often (mean= 4.37). This implied stuttering effects occurred very often among LWS.

5.1.2 Influence of Stuttering Effects on Social Interactions among Learners who Stutter in Primary Schools

Results of coefficients of influence of stuttering effects on social interactions among LWS indicated that all the intervening variables except fathers' occupation were not significant contributors to variation in social interactions among LWS. The main predictors were anxiety, which had the highest negative influence, (β= -0.323, $p<.05$) followed by fear, (β= -.279, $p<.05$). Embarrassment while speaking was the third, (β= -.201, $p<.05$) while frustration was the fourth with β= -.197, $p<.05$ and finally self-stigma towards LWS was least rated, (β= -0.164, $p<.05$). The model summary of

stuttering effects accounted for 57.8% (R^2 change= .578, p<.05) negative variance in social interactions among learners who stutter. Therefore, the five stuttering effects negatively influenced social interactions among LWS which was a key element of educational achievement.

5.1.3 Influence of Stuttering Effects on Classroom Participation among Learners who Stutter in Primary Schools

Results on the influence of stuttering effects on class participation among LWS indicated that self-stigma had the highest significant negative influence to classroom participation, (β= -.256, p<.05). followed by fear with β= -.246, p<.05 while embarrassment while speaking was the third with β= -.242, p<.05, anxiety to speak, (β= -.218, p<.05). Frustrations had β= -.181, p<.05. From the model summary, the effects of stuttering accounted for 52.9% (R^2 change= .529, p<.05) of the variance in classroom participation among LWS. From the negative regression coefficients, this implied that stuttering effects accounted for 52.9% negative variation on classroom participation among LWS. The results thus indicated that all the five stuttering effects had negative influence on classroom participation among LWS which was an element of educational achievement.

5.1.4 Influence of Stuttering Effects on Vocational Aspirations Among Learners who Stutter in Primary Schools

The preference of vocations by LWS was rated as follows: farming (M= 4.53), being an artist (M= 4.51), engineering (M= 4.45), being a medical doctor or nurse (M= 3.96), mechanic (M= 3.86), carpentry (M= 3.58). Least rated vocations in terms of preference included: teaching (M= 2.75), poetry (M= 2.66), being a politician (M=

2.43), preaching (M= 2.13). Therefore, LWS preferred vocations such as farming, being an artist or engineering because they required less talking. While they least preferred being a politician nor a preacher because the vocations required much talking. Therefore, as a result of stuttering LWS avoided vocations that required much talking. From interviews, LWS disliked vocations that required much talking as a result of stuttering effects such as fear, anxiety, self-stigma, frustrations and embarrassment. Thus, stuttering effects negatively influenced vocational aspirations, a key element of educational achievement.

5.1.5 Influence of Stuttering Effects on Academic Performance among Learners who Stutter in Primary Schools.

Results of correlation (partial correlations) on influence of stuttering effects on academic performance for class eight indicated the key stuttering effects that negatively influenced academic performance in class eight as follows: frustrations to speak (r= -0.914; R^2= .8354, 83.54%) p< 0.05, embarrassment when speaking (r= -0.889; R^2=.7903, 79.03%) p< 0.05, fear to speak (r= -0.817; R^2= .6675, 66.75%) p< 0.05, anxiety to speak (r= -0.640; R^2= .4096, 40.96%) p< 0.05 and self-stigma (r= -0.620; R^2= .3844, 38.44%) p< 0.05. From the findings of the study, frustrations while speaking were the highest contributor to decrease or poor academic performance among LWS, while self-stigma was the least. All the five stuttering effects had a negative influence on academic performance among LWS in class eight.

Results of the correlation on the influence of stuttering effects on academic performance among LWS in class seven indicated that apart from anxiety (r= -0.408) P< .60, the four other stuttering effects negatively influenced academic performance among LWS. Frustrations while speaking was at (r= -0.836; R^2= .6989) accounting

for 69.89%) p< .05 on poor academic performance among LWS, embarrassment while speaking (r= -0.793; R^2= .6288, accounted for 62.88%) p< .05, and stigma (r= -0.662; R^2= .4382) accounted for 43.82%) p< .05. Therefore, anxiety to speak did not negatively influence academic performance among LWS. Frustrations while speaking was the highest contributor to poor academic performance among LWS in class seven while self-stigma was the least.

All the five stuttering effects had negative variance on academic performance among LWS in class six. Embarrassment to speak (r= -0.844; R^2= .7123 accounted for 71.23% p< .05, fear to speak (r= -0.731; R^2= .5344; 53.44 %), frustrations while speaking (r= -0.717; R^2= .5141, 51.41%) p< .05, self-stigma (r= -0.595; R^2= .3540; 35.40%) p< .05 variance on academic performance and anxiety to speak was the least (r= -0.488; R^2= .2381; 23.81%) p< .05 negative variance on academic performance among LWS in class six. Therefore, the highest stuttering effect that negatively influenced academic performance among LWS in class six was embarrassment while the least was anxiety to speak.

Therefore, it is evident from the correlation and R^2 results that there was a strong negative relationship between the five stuttering effects and academic performance. From R^2 results, it is evident the five stuttering effects negatively influenced academic performance among young adolescent LWS in primary schools, apart from anxiety in class seven, which was a key element of educational achievement.

5.2 Conclusions

Based on the findings of the study, it can be concluded that stuttering effects influenced educational achievement in the following ways;

5.2.1 Extent to which Stuttering Effects occur Among Learners who stutter in Kakamega County

LWS in Kakamega County experienced stuttering effects such as anxiety, fear, frustrations, self-stigma and embarrassment while speaking. These stuttering effects occurred very often.

5.2.2 Influence of Stuttering Effects on Social Interactions among Learners who Stutter in Primary Schools

The five stuttering effects such as anxiety, fear, frustrations, self-stigma, and embarrassment negatively influenced social interactions among LWS. Anxiety had the highest negative influence while stigma had the least influence.

5.2.3 Influence of Stuttering Effects on Classroom Participation among Learners who Stutter in Primary Schools

Stuttering effects such as anxiety, fear, frustrations, self-stigma, and embarrassment negatively influenced classroom participation among LWS finally affect the academic standards.

5.2.4 Influence of Stuttering Effects on Vocational Aspirations Among Learners who Stutter in Primary Schools

Stuttering effects such as anxiety, fear, frustrations, self-stigma and embarrassment negatively influenced choice of vocational aspirations among LWS in primary schools. LWS preferred vocations that require less talking to avoid negative effects of stuttering.

5.2.5 Influence of Stuttering Effects on Academic Performance among Learners who Stutter in Primary Schools

Stuttering effects such as anxiety, fear, frustrations, self-stigma and embarrassment

negatively influenced academic performance among LWS in class six, seven, and eight to a large extent.

5.3 Recommendations

Based on findings of the study, the study recommends that in order for young adolescent LWS to have good educational achievement;

5.3.1 Extent to which Stuttering Effects occur Among Learners who Stutter in Kakamega County

Stuttering effects such as anxiety, fear, frustrations, self-stigma and embarrassment need to be minimized for the learner to achieve good academic results at school. Such effects can be minimized through the sensitization of learners and teachers to accept the way LWS speaks. LWS need to be encouraged to speak. Teachers and regular learners should not bully, or tease LWS as a result of their dysfluency.

5.3.2 Influence of Stuttering Effects on Social Interactions among Learners who Stutter in Primary Schools

Learners who stutter need to be involved in social interaction activities in school through reducing stuttering effects on LWS. This can be achieved by means of creating awareness to the general school community about stuttering, involving LWS in social activities both in class and outside the class, and sensitizing other learners on the need to include the LWS in various social activities in school. Regular learners need to be advised not to tease nor bully LWS because of their condition.

5.3.3 Influence of Stuttering Effects on Classroom Participation among Learners who Stutter in Primary Schools

The negative influence of stuttering effects on class participation need to be minimized to enable participation in class. Teachers need to involve the LWS in class

activities during the lesson and give the learner enough time to participate in class activities.

5.3.4 Influence of Stuttering Effects on Vocational Aspirations Among Learners who Stutter in Primary Schools

Teachers need to guide LWS in the choice of vocation. LWS need to be advised to pursue vocational aspirations that require less talking. This is in order to reduce the stuttering effects at work place in future. LWS need to be taken through guidance and counseling sessions on vocational aspirations.

5.3.5 Influence of Stuttering Effects on Academic Performance among Learners who Stutter in Primary Schools

Negative influence of stuttering effects on academic performance need to be reduced by involving the learner in academic activities so that the learner can achieve good results. Teachers need to give the learner more time to ask and answer questions and consult generally.

5.4 Suggestions for Further Study

i) Based on findings of the study, the following topics are worth considering for further studies. The current study established that stuttering effects such as fear, anxiety, embarrassment, frustrations and self-stigma negatively influenced educational achievement. There is need to establish the coping strategies in dealing with stuttering effects on educational achievement.

ii) The current study only established the influence of stuttering effects on educational achievement. There is need to carry out a comparative study on influence of stuttering effects across gender in educational achievement.

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APPENDICES

Appendix I: Questionnaire for Learners who stutter

Instructions: The purpose of this study is to find out the effect of stuttering on educational achievement among learners who stutter in primary schools in Kakamega County. Put a tick (√) in the BEST option that describes you. All answers are correct. There is NO wrong answer.

Personal Details

1. Speech fluency:
a) Stutter ( ) b) Non-stutter ( )

2. Sex…….. a) Male ( ) b) Female ( )

3. Socio-economic status about the learner.
a) Occupation of father:
i) Teacher ( ) ii) Doctor/nurse ( ) iii) Engineer ( ) iv) Peasant ( ) v) Home maker ( )
vi) Any other ( ), specify……

b) Occupation of mother:
i) Teacher ( ) ii) Doctor/nurse ( ) iii) Engineer ( ) iv) Peasant ( )
v) home maker ( ) vi) Any other ( )

c) Level of education of parents:
Mother
i) Did not complete class 8 ( )
ii) Completed class 8 ( )
iii) Did not complete form 4 ( )
iv) Completed form 4 ( )
v) College ( )
vi) University ( )

Father
i) Did not complete class 8 ( )
ii) Completed class 8 ( )
iii) Did not complete form 4 ( )
iv) Completed form 4 ( )
v) College ( )
vi) University ( )

3. Age:
a) 9-10 years b) 11- 12 years c) 13- 14 years d) 15 - 16 years e) Above 16 years

Section A: Stuttering Effects

Instructions: Below are some experiences which learners who stutter experience while in school. Tick (√) the option that best describes the experience such learners faces while at school. All answers are correct. There is NO wrong answer on the choices given.

	Effects of stuttering	Always	Very often	Often	Rarely	Not at all
1	I am depressed when talking					
2	I find difficulty speaking to unfamiliar person					
3	I experience difficulty speaking to large crowds					
4	I tremble while speaking					
5	I fear speaking in class					
6	I fear speaking because I get stuck on a word for a long time					
7	I fear speaking to a large group as I stutter more					
8	I fear talking because I prolong words and sentences while answering a question in class					
9	I fear speaking because I hesitate a lot while at school					
10	I get frustrated while speaking					
11	I experience frustrations in class when I repeat syllables and words while talking					
12	Sometimes I get frustrated when I prolong words and sentences when talking at school					
13	I get frustrated when I get interject some syllables to a word in order to speak well					
14	I avoid other learners who laugh at me while at school					
15	I avoid engaging with some teachers and other learners while in class because they make fun the way I speak					
16	I do not seek to be with other learners while at school					

17	I withdraw from other learners in verbal activities at school					
18	I am embarrassed while speaking because other learners tease me when I speak					
19	I am embarrassed while speaking because I have difficulties in speaking well					
20	I am embarrassed because other learners ridicule me on every word I get stuck when I speak at school					
21	Other learners laugh at the way I speak					

Section B: Social Interactions

Instructions: Below are some experiences which some learners experience while in school. Tick (√) the option that best describes your experiences.

	Statement	**Always**	**Very often**	**Often**	**Rarely**	**Not at all**
1	I am discriminated in play activities					
2	I am withdrawn during socialization time					
3	I am stigmatized by other learners and teachers					
4	I am liked by other learners during social interactions while at school					
5	I am bullied during play activities					
6	I feel my teacher avoids listening to me					
7	I am perceived negatively by non-stuttering learners					
8	I socialize well with other learners in school					
9	I avoid speaking in public					
10	I like play activities involving talking					
11	Learners who stutter are friendly					
12	Teachers perceive learners who stutter as outgoing					

13	I have many friends who like interacting with me					
14	I find it difficulty in establishing interpersonal relationships					
15	Regularlearners laugh at me while talking					
16	I fear interacting with regular learners during games that require talking.					

Section C: Classroom Participation

Instructions: Below are some experiences which learners who stutter experience during participation in class. Tick (√) the option that best describes your experiences. All options are correct. There is no wrong option on the choices given.

	Statement	**Always**	**Very Often**	**Often**	**Rarely**	**Not at all**
1	I shy away from asking and answering questions in class					
2	I take longer time to answer questions in class.					
3	I am included in group discussions by regular learners					
4	Teachers give equal opportunities to all learners to ask and answer questions in class.					
5	Other learners laugh at me when answering and asking questions in class					
6	I am rarely picked to make presentations in classroom					
7	I shy participating in classroom activities that need speaking					
8	I like speaking situations in the classroom					
9	Teachers give learners who stutter enough time to answer questions in class					
10	I participate actively in classroom					
11	I have difficulties in group discussions in class					
12	I participate well in class discourse					
13	I have phobia attending lessons that require a lot of verbal speaking					

14	I speak fluently in class					
15	I lead in group discussions					
16	I am included in group activities that require speaking in class					
17	I hate reading sessions in class					
18	Other learners laugh when I read passages in class					
19.	Teachers rarely involve me in class activities					

Section D: Vocational Aspirations
Instructions: Below are vocational aspirations of learners who stutter in school. Tick (√) the option that best describes your aspirations.

1. Among the following vocational options, which set would you prefer to be in future?

	Vocation	**Always**	**Very often**	**often**	**rarely**	**Not at all**
1	I prefer teaching profession					
2	I prefer engineering profession					
3	I prefer profession of being a lawyer					
4	I prefer being a pastor					
5	I prefer being a poet					
6	I prefer business profession					
7	I prefer farming profession					
8	I prefer mechanic profession					
9	I prefer carpentry					
10	I prefer being a politician					
11	I prefer artist profession					
12	I prefer being a medical doctor or a nurse					

2. Give reasons why you would prefer the vocational option chosen in question 1.
   a) The vocational option requires little talking ( )
   b) The vocational option earns more money ( )
   c) The vocational option is interesting ( )
   d) The vocational option is less demanding in terms of time and work ( )
3. Give reasons why you would not prefer the career option in question 1.
   a) I fear career that require much talking ( )
   b) I hate career that has low pay ( )
   c) The career is demanding ( )
   d) The career is boring ( )
   e) Any other ( )

4. To what extent do you think stuttering affect your vocational aspirations?
   a) To a very large extent ( )
   b) To a large extent ( )
   c) To some extent ( )
   d) To a small extent ( )
   e) Not at all ( )

Appendix II: Questionnaire for Regular Learners

Instructions: The purpose of this study is to find out the influence of stuttering effects on educational achievement among learners who stutter in primary schools in Kakamega County. Put a tick in the BEST option that describes your views about learners who stutter. All answers are correct. There is NO wrong answer.

Section A: Social Interactions

Instructions: Below are experiences which learners who stutter experience while in school. Tick (√) the option that best describes your views about the learner who stutter. .

	Statement	**Always**	**Very often**	**Often**	**Rarely**	**Not at all**
1	Learners who stutter are discriminated in play activities					
2	Learners who stutter are withdrawn during socialization time					
3	Learners who stutter are stigmatized by other learners and teachers					
4	Learners who stutter are liked by regular learners during social activities.					
5	Learners who stutter are bullied during social interactions					
6	Teachers listen to learners who stutter					
7	Learners who stutter are perceived negatively by non-stuttering learners					
8	Learners who stutter socialize well with other learners in school					
9	Learners who stutter avoid speaking in public due to fear of embarrassment					
10	Learners who stutter like play activities involving talking					
11	Learners who stutter are friendly					
12	learners who stutter as outgoing					
13	learners who stutter have many friends who like interacting with me					
14	Regular learners find it difficulty establishing interpersonal relationships with learners who					

	stutter					
15	Regular learners laugh at learners who stutter while talking					
16	Regular learners crack jokes and laughter with learners who stutter during break time					

Section B: Classroom Participation

Instructions: Below are some experiences which learners who stutter experience during participation in class. Tick (√) the option that best describes your experiences with such learners.

	Statement	**Always**	**Very Often**	**Often**	**Rarely**	**Not at all**
1	Learners who stutter are afraid of asking and answering questions in class					
2	Learners who stutter take longer time to answer questions in class.					
3	Regular learners avoid including learners who stutter in group discussion					
4	Teachers give equal opportunities to all learners to ask and answer questions in class.					
5	Regular learners laugh at learner who stutter when answering and asking questions in class					
6	Learners who stutter are rarely picked to make presentations in classroom					
7	Learners who stutter are shy participating in classroom activities that need speaking					
8	Learners who stutter like speaking situations in the classroom					
9	Teachers give learners who stutter enough time to answer questions in class					
10	Learners who stutter participate actively in classroom					
11	Learners who stutter have difficulties in group discussions in class					
12	Learners who stutter participate well in class discourse					

13	Learners who stutter have phobia attending lessons that require a lot of verbal speaking					
14	Learners who stutter speak fluently in class					
15	I rarely lead in group discussions					
16	Learners who stutter are discriminated in group activities that require speaking in class					
17	Any other					

Appendix III: Interview Schedule for Learners who stutter

1. How do effects of stuttering affect your social interaction with regular learners and teachers while at school?
(probe for more information how each effect affect social interactions)
i……
ii……
iii……

2.How do effects of stuttering influence your class participation in group discussion?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……

3. How do effects of stuttering affect you during class participation in classroom?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……

4. How does stuttering affect your academic performance while at school?
(probe for more information how each effect affect social interactions)
i……
ii……
iii……
iv……

5. How does stuttering affect your vocational aspirations?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……
6. What type of vocation would you like to pursue in future after school?
i……
ii……
iii……
iv……

7. Do you think stuttering effects affect your academic performance?
a) Yes
b) No
8. If yes, how do stuttering effects affect your academic performance?
i……

Appendix IV: Interview Schedule for Teachers/ Head teachers

Respondent: a) Teacher ( ) b) Head teacher ( )

1. What difficulties do learners who stutter face during social interaction with other learners who do not stutter while at school?
i…….
ii……
iii……..
iv…….
v)……

2. How does stuttering effects affect learners who stutter in class participation?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……
3.How do learners who stutter interact with others in class?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……

4. What advice would you give a learner who stutters in terms of vocational choice?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……

5. How does stuttering influence academic performance among learners who stutter?
(probe for more information how each effect affect social interactions)

i……
ii……
iii……
iv……

6. How does stuttering affect class participation between learner-teacher interactions during classroom discourse?
……
……
……
……
……

7. What type of vocation would you advice learners who stutter to pursue in future?
……
……
……

8. How does stuttering influence choice of vocation among learners who stutter?
i…….
ii……
iii……
iv……
….

9. How does stuttering affect social interaction of learners who stutter while at school?
i……..
ii…….
iii……
iv……..
v……

10. How does stuttering affect learners who stutter in participation in group activities while in class?
i……
ii……
iii……

Appendix V: Observation Schedule on Social Interactions of Learners who Stutter

Setting/activity	**Comments**
Interaction with peers in class	
Interaction with peers in co-curricular activities such as games, sports, singing	
Withdrawal from rest of other learners	
Talking to desk mate in class	
Talking to other learners in class	
Talking to the teacher in class	
Eating together with others	
Telling stories with others	
Playing together with others during break time	
Walking with others during break time	
Interacting with others while in the play field	
Dancing together with others during music/entertainment time	

Appendix VI: Observation Schedule on Class Participation of Learners who Stutter

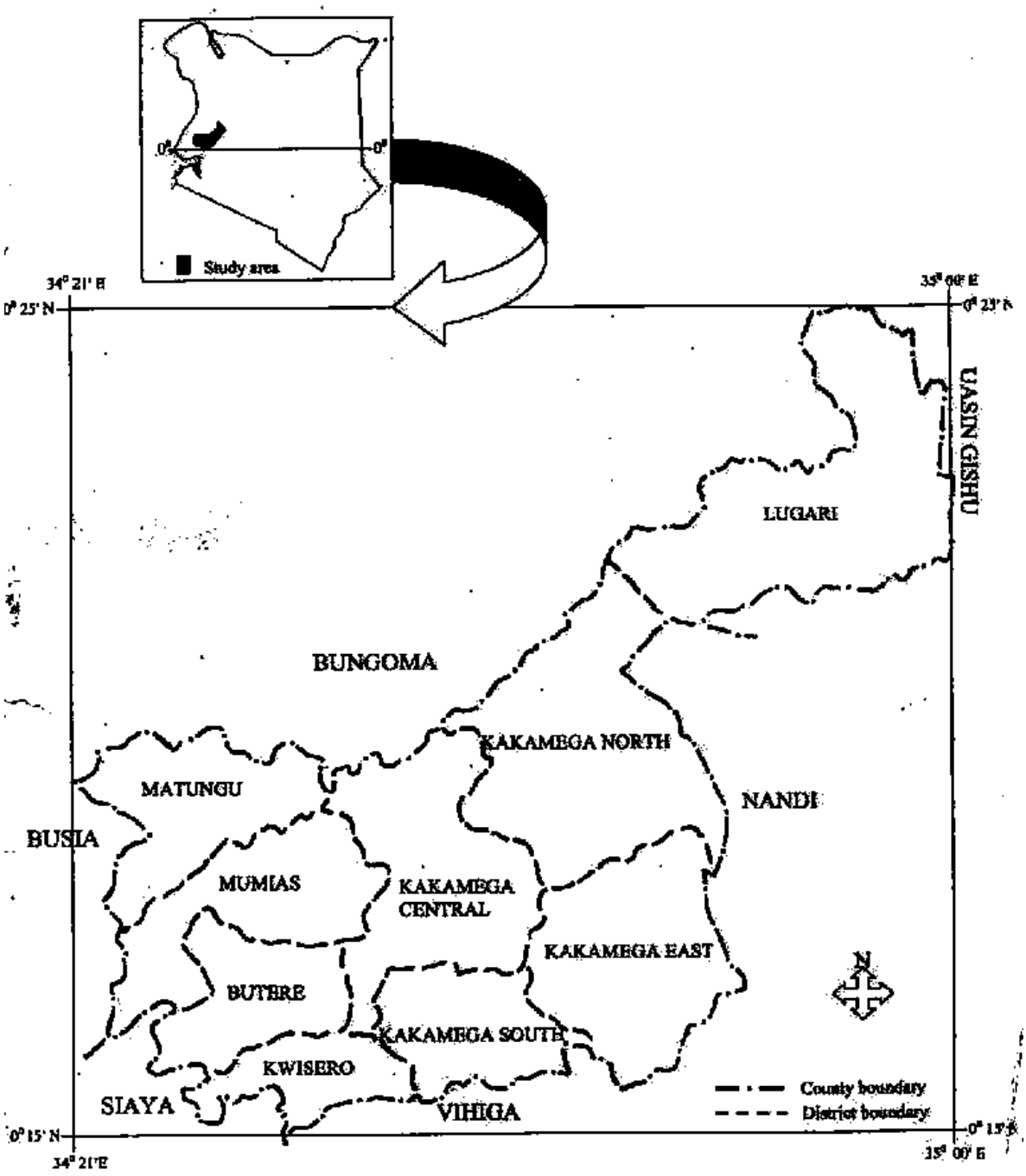
Class Participation	**comments**
i)Verbal participation in class	
ii) participation in group discussion	
iii) Participation in asking questions	
v)Participation in answering questions	
vii) Consulting with other learners in class	
viii) Working with desk mate on tasks given	
ix) Sharing text books with other learners	
x) Reading a passage in class	

Appendix VII: Table of Specifications on Academic Tests

School code …….
Class……
Subject ……

S/N	Topics covered

Appendix VIII: Map of Kakamega County



Appendix IX: Academic Performance Test for Class Six

Instructions: The purpose of this test is to measure academic performance of both learners who stutter and regular learners. Answer all questions. Put a tick (√) to the BEST option.

Speech Fluency:

Stutter ( ) b) Non-stutter ( )

Gender: a) Male ( ) b) Female ( )

SECTION A: KISWAHILI

Soma vifungu viwili vifuatavyo.Vina nafasi 1 mpaka 8. Katika kila nafasi chagua jibu mwafaka kabisa.

Kila mtoto----1---- msichana----2---- mvulana, ---3----- haki ya kupata elimu. Wazazi na walezi sharti wahakikishe kuwa watoto---4--- wamepelekwa shuleni---5--- wataelimishwa, waama elimu ni -----6----- wa mgongo wa maisha ya adinasi-----7----- Yule atakaye maisha---8---.

A	B	C	D
Huyu	yeyote	ambaye	awe
Ila	ilhali	au	wala
Ana	hana	yuko	ako
Wote	yote	wowote	yoyote
Ambao	ambako	ambalo	ambayo
Uti	udi	ada	eti
Yote	yoyote	yeyote	wote
Mema	nzuri	njema	msuri

Jibu kulingana na maagizo

9. Vazi livaliwalo na wanawake ndani na kutokea mabegani ni----------

Kanchiri ( ) B. shimizi ( ) C. Gagulo ( ) D. sidiria ( )

10.Kanusha: wewe ulikuwa ukiandika insha kila siku.

A. Wewe haujakuwa ukiandika insha kila siku.
B. Wewe haukuwa ukiandika insha kila siku.
C. Wewe haukuandika insha kila siku.
D. Wewe hukuwa ukiandika insha kila siku.

11. Pora ni kwa **tembe** ilhali **fahali** ni kwa ----------

A. Beberu ( ) B. njeku ( ) C. Mtamba ( ) D. mbarika ( )

12Mluzi kwa nyoka ni kama ----------kwa tembo.

A. Mteteo ( )
B. Mngurumo ( )
C. Mtokoto ( )
D. Mtweto ( )

13. 2/3 kwa maneno ni:

A. Nusu tatu ( ) B. Thuluthi ( ) C.Thuluthi mbili ( )
D. Sudusi mbili ( )

Soma habari ifuatayo kisha ujibu maswali 14-18

Nachukua fursa hii kufafanua kwa tafsili na kinaganaga mbinu mbalimbali ambazo mwanafunzi anaweza kutumia katika kujifunza na kuelewa Kiswahili mufti akiwa shuleni. Ili mwanafunzi afaulu na kufuzu katika kujifunza au katika mtihani, awe na vitu vitatu. Kwanza, nia ari au hamu na ghamu ya kutaka kujifunza Kiswahili. Pili, bidii au juhudi katika kujifunza Kiswahili na tatu awe na kweli au hakika kwa mambo anayojifunza Kiswahili. Baadha ya kuwa na vita hivyo vitatu ndipo azitumie mbinu hizi mahususi.

Ni sharti mwanafunzikuwa makini na msikive pindi mwalimu anapofunza darasani awe mwepesi wa kusikiliza na kuelewa. Waama asiwe mwepesi wa kuropoka maana lugha ya Kiswahili haitakipapara.
Ni jambo la lazima mwanafunzi azingatie na afuatilie polepole taratibu kila neno au jina analotaja kuwa limetoka au limo katika ngeli ipi kwani neno la Kiswahili lazima lifuatiliwe na viambishi sahihi vya ngeli mwafaka ndipo upate sentensi mufti na sanifu.

14. Nia au hari humwezesha vipi mwanafunzi kujifunza Kiswahili?
A. kwa kutokata tama
B. kwa kumsikiliza mwalimu
C. kwa kununua vitabu vingi.
D. kwa kukata tama

15. Lugha ya Kiswahili haitaki papara kwani
A. mwenye pupa hadiriki kula tamu
B. palipo na nia pana njia
C. penye wengi pana mengi
D. papo kwa papo kamba hukata jiwe.

16. Mwanafunzi aliye makini huwa
A. na utulivu na papara
B. na akili
C. tama
D. mwenye adabu na mtulivu
17. Msingi mwafaka wa lugha mufti ya Kiswahili haina budi kuzingatia
A. Umaskini B. Ngeli C. Viambishi D. Tahajia

18. Majadiliano huweza kumsaidia mwanafunzi
A. kuwa mwongeaji kwa ufasaha
B. kuzungumza kwa nguvu
C. kusema kwa ushujaa
D. kutamka Kwa sauti

Insha
Maagizo: Andika insha ikimalizie,
……Sitasahau siku hiyo.

SECTION B: ENGLISH
TIME: 2 HOURS
Instructions: answer all questions. Put a tick (√) to the correct answer.

Choose the best alternative to fill in the blank spaces.
Ken was brought ---1----- in a rich family----2----- he had everything he ever wished at his ---3--- his parents ---4---- loving----5---. They ---6--- him and ----7---- siblings ----8----- good school.

	A	B	C	D
1.	On	over	above	up
2.	But	and	through	nevertheless
3.	Disposed	disposal	pleasure	hands
4.	Were	was	is	are
5.	People	person	friends	companion
6.	Taken	takes	took	taking
7.	Her	their	his	him
8.	For	to	after	out of

For question 9 and 10 choose the word which least belongs to the group

9. A. Hair B.Water C. Chair D. Experience
10. A. Lady B. Governess C. Wizard D. Witch

For question 11 and 12 choose the correct tag to complete the following:

11. Jane was not present yesterday,----------?
A. Wasn't she B. Is she C. Isn't it D. Was she
12. She shouldn't waste water,----------?
A.Shouldn't she? B. Should she? C. Does she D. Do she

For question 13 and 14 choose the choice which means the same as the underlined.

13. The guest of honour was given a <u>bunch</u> of flowers by a nursery child.
A. heap B. bouquet C. bundle D. pile

14. He seems to be interested in <u>trivial</u> matters only.
A. urgent B. ordinary C. minor D. important

For question 15 choose the correct word to fill the blank provided.
15. ----------comes late will be punished.
A. whichever
B. whenever
C. whoever
D. forsoever

Composition
Write a composition about "my school."

SECTION C: MATHEMATICS
1. Simplify the expression given:
4(a+4b+2) + 5(2a-b+3)

A. 14a+11b+23 B. 14b +21b +23 C. 14b+11b-23 D. 69 +11b+23

2. What is the mode of the following?
2, 5, 6, 3, 20, 5

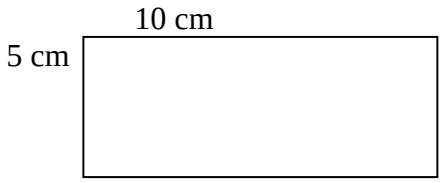
A. 5 B. 6 5/6 C. 20 D. 3

3. Express 331/3% as a fraction:
A. 3 B. 108 C. 5832 D. 216

4. The ratio of mass as of two boys is 4:3. If the heavier boy has a mass of 56 kg. What is the mass of the lighter boy?
A. 42 Kg B. 98 kg C. 52 kg D. 39 kg
5. Six men can complete a job in 20 days. How many more days will 3 men take to do the same.
A. 40 B. 10 C. 20 D. 30

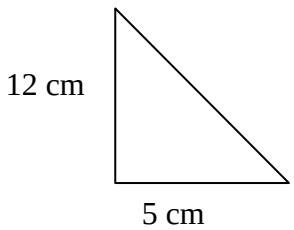
6. Auma slept at 11.45 pm and woke up at 8.15 a.m. for how long did she sleep?
A. 7 hrs 30 min B. 8 hrs 30 min C. 9 hrs 30 min D. 10 hrs 30 min

7. Calculate the area of the rectangle below:



A. 40 B. 50 C. 45 D. 55

8. Calculate the area of the triangle below.



9. I think of a number, add seven to that number and multiply the result by 4. My answer is 100. What is the number?
A. 13 B. 20 C.25 D.18

10. By selling goods for sh 2, 300, a trader made a profit of 15%. How much profit did he get?

A. sh. 345 B. sh. 400 C. sh. 200 D. sh. 300

11. Express 0.0145 as a percentage.

A. 14.5% B. 0.145% C. 1.45% D. 145%

12. Simplify the inequality 8n – 5> 3n+8

A. n>3/5 B. n>2 3/5 C. n<3/5 D. n<2 3/5

13. Construct triangle XYZ such that XY=8 cm, YZ=7 cm, and XZ= 5 cm. what is the measure of angle XYZ?

A. 82 B. 60 C. 38 D. 98

14. What is the total value of 7 in 53.0479?

a) 0.07 B. thousandths C. 53.047 D. 0.007

15. What is the value of 22.3-7.046+3.48?

A. 11.774 B. 18.734 C. 18.834 D. 15.254

SECTION D: SCIENCE

TIME: 2 HOURS

Instructions: Answer ALL Questions. Put a tick ( ) to the correct answer.

1. Which of the following groups consist of the biotic factor of the environment?
   A. Plant and animal
   B. Plant and soil
   C. Air and water
      Animal and water

2.The following factors affect erosion except----------

   A. Slope of land B. temperature C. intensity of rain D. Human activity

3.The following characteristics of matter belong to solid only.
   Which one is it?
   A. Expand most when heated no definite volume
   B. Do not change state when cooled
   C. Have no definite volume
   D. Takes shape of the container

1. Which among the following is a characteristic of wind pollinated flower?
   A. Are usually large in size
   B. Produce large amount of pollen grains
   C. Have nectar
   D. Have sticky pollen grains

2. The following are steps followed by pupils when making a certain tool.
   i) Flattening one end of a nail
   ii) Fixing the flattened end nail into piece of wood
   iii) Cutting the head of nail

iv) Flattening and sharpening the exposed nail.

The tool described above is a ----------?

A. Drill B. chisel C. hammer D. saw

3. Which of the following livestock parasite is found in the external part of an animal?
   A. Mites B. Liver fluke C. Lungworm D. snail
4. A farmer wanted to control soil erosion on a steep piece of land. Which of the following methods would you encourage him to use?

A. Planting trees B. Digging terraces C. Contour farming D. Building gabions

5. A person with visual impairment may have all of the following sense except?
   A. Touch B. sight C. smell D. taste
6. One evening, a pupil noticed a bright heavenly body that was not twinkling.

A. Saturn B. Venus C. Urenus D. Neptune

7. Pitch of sound in an instrument depends on the following factors except?

A. Thickness of wire B. Length of wire C. Tightness of wire D. Height of wire

8. A certain animal lays eggs, has scales and the body temperature varies with surrounding. The animal is likely to be a?

A. Duckbilled platypus B. toad C. snake D. duck

9. Roots that support the maize stem and are used for extra support are called-----
   A. Breathing B. fibrous C. prop D. tap
10. Which one of the following is NOT a fodder crop?
    A. Oats B. Clover C. Sorghum D. Nappier grass
11. The following are methods of grazing. Which one is NOT a rotational method?
    A. Paddocking B. Tethering C. Stall feeding D. Strip grazing
12. Which one of the following diseases is easily spread through air and dust?
    A. Cholera B. Diarrhoea C. Tuberculosis D. Malaria

SECTION E: SOCIAL STUDIES

TIME: 2 HOURS

Instructions: Answer All Questions

1. Which town has benefited in Kenya from decentralization of industries?

A. Thika

B. Eldoret

C. Machakos

D. Kakamega

2. The title of Nyamwezi traditional chief was----------

A. Kabaka B. Mirambo C. Nyungu ya mawe D. Ntemi

3. Which one of the following is correctly matched with its meaning?

A. Katikiro- chief Justice

B. Omulamuzi- treasurer

C. Lukiko- parliament
D. Omwanika- prime minister

4. In the Buganda counties were divided into units called----------
A. Ssazas B. Gombolola C. Kitongole D. districts

5. Which one of the following weather instruments is correctly matched with its functions?

A. Speed of wind- anemometer
B. Strength of wind – wind vane
C. Humidity- barometer
D. Atmospheric pressure- hygrometer

7. The following lakes were formed as a result of down warping except?

A. Chad and Victoria
B. Eyasi and Bangweulu
C. Chad and Bangweulu
D. Kyoga and Victoria

8. The following countries are members of SADC except one. Which one is it?
A.Tanzania B. Burundi C. Namibia D. Mozambique
9. Which of the following group of people are found in central Africa?
A. baluba, Yao, shona B. Asante, Hausa, Bemba C.hutu, xhosa, Zulu D. Soninke, tuaregs, Berbers

10. Which of the following sets of countries were Germany colonies?
A. Togo, Namibia, Cameroon
B.Tanganyika, Mozambique, Gambia
C.Egypt, Liberia, Chad
D.Botswana, Sierra Leone, Swaziland

11. The fossils of zinjanthropus were discovered at----------
A. Koobi Fora B. Rusinga island C. Olduvai Gorge D. Ishango

12. The MAIN problem facing fishing in Lake Victoria is----------
A. poaching of fish
B. limited market
C. poor means of transport
D. presence of water hyacinth

13. the most important factor to consider when establishing service industry is----------
A. raw materials B. transport C. labour D. Market

14. Which one of the following rights of Kenya was NOT violated during the post-election violence of 2008?
A. Right to vote B. Right to own property C.Right to life D. Right to education

15. What's the MAIN advantage of newspapers over Radios?
A. newspapers are cheaper to buy than radios

B. newspapers provide more information
C. newspapers are easier to carry around
D. it's possible to make future responses.

16. Which town has benefited in Kenya from decentralization of industries?
A. thika
B. Eldoret
C. Machakos
D. kakamega

17. One of the following disciples replaced Judas the Iscariot after his death. Who was he?
A. Paul B. Mathias C. Barnabbas D. Justus

18. Who baptized the Ethiopian Eunuch?
A. Stephen B. Philip C. Paul D. Nicanor
19. Which one of the following was not an epistle written by Paul?
A. roman B. Jude C. Galatians D. Ephesians
20. Who of the following disciples informed him of a boy who had five loaves of bread and two fish?
A. Peter B. Andrew C. John D. James

Appendix X: Academic Performance Test for Class Seven

Instructions: The purpose of this test is to measure academic performance of both learners who stutter and regular learners. Answer all questions. Put a tick ( ) to the BEST option.

Speech Fluency:

a) Stutter ( ) b) Non-stutter ( )

Gender: a) Male ( ) b) Female ( )

PART 1: KISWAHILI
Muda: Masaa Mawili

Maaagizo: Jibu kulingana na maagizo.

Soma vifungu viwili vifuatavyo.Vina nafasi 1 mpaka 8.Katika kila nafasi chagua jibu mwafaka kabisa.

Kila mtoto----1---- msichana----2---- mvulana, ---3----- haki ya kupata elimu. Wazazi na walezi sharti wahakikishe kuwa watoto---4--- wamepelekwa shuleni---5--- wataelimishwa, waama elimu ni -----6----- wa mgongo wa maisha ya adinasi-----7---- Yule atakaye maisha---8---.

	A	B	C	D
1.	Huyu	yeyote	ambaye	awe
2.	Ila	ilhali	au	wala
3.	Ana	hana	yuko	ako
4.	Wote	yote	wowote	yoyote
5.	Ambao	ambako	ambalo	ambayo
6.	Uti	udi	ada	eti
7.	Yote	yoyote	yeyote	wote
8.	Mema	nzuri	njema	msuri

Jibu maswali yafuatayo kulingana na maagizo

9. Kitita ni kwa pesa. Tano ni kwa……
A. Watu B. Chokaa C. ndizi D. Ngozi

10. Nomino “habari” iko katika ngeli ya;
A. U-ZI B. I-I C. U-I D. I-ZI

11.”K**wa**” imetumiwaje katika sentensi ifuatayo.
Hamisi alikuja kwa gari lake.
A. Kuonyesha ya uhusiano wa kutenda.
B. Kuonyesha hali ya pamoja
C. Kuonyesha kifaa
D. Kuonyesha namna

12. Miongoni mwa sehemu hizi za mwili, ni sehemu ipi iliyo tofauti na nyingine.
A. kisogo
B. kisigino
C. utosi
D.Paji

13. Polepole, vibaya, njiani, ni;
A. Vielezi B. Vivumishi C. nomino D. Viwakilishi

Soma taarifa ifuatayo kisha ujibu maswali 14-18

Wanawake wana jukumu kubwa katika jamii.Wao ni wazazi na walezi wa jamii. Mtoto anapozaliwa na anapokuwa, huwa na mvuto mkubwa zaidi kwa upande wa mamake. Anapokuwa ndipo polepole huanza kugundua babake.

Kutokana na umuhimu huu wa wanawake hatuna budi kuwapa akina mama fursa mbalilmbali za kuboresha maisha yao ya kijamii, kiuchumi na kisiasa.
Hivi ni kusema kuwa wanawake wanafaa kujitambua haki zao za kimsingi. Wanafaa kupewa nafasi ya kupata elimu.

Wanafaa kuelewa kuwa lengo la elimu si kulutuliza kutoka darasa moja hadi jingine bali ni kutoa ujinga, unyonge wa kiakili na kujiendeleza kwa maisha ya sasa nay a kesho.

Msichana yeyote anayemaliza mtihani na kujiingiza katika ndoa kabla ya kuwa tayari kwa shughuli za ndoa anafaa kuonekana kama adui namba moja ya maisha yake mwenyewe na a nafaa kuelezwa maana ya msemo, msiba wa kujitakia hauna kilio.

Kila mtu anafaa kuelewa kuwa zama zimepita za kutumika kama chombo cha kutosheleza mahitaji ya wanaume na watoto nyumbani. Wanafaa kuelewa kuwa kote ulimwenguni wanawake wana uwezo wa kuwa daktari, rubani, mkurugenzi, mhandisi na hata raisi. Ingawa uhuru huu upo wanawake sharti wajikakamue kwani hakuna cha bure maishani.

14. Kulingana na aya ya kwanza ni kweli kusema kuwa
A. Watoto huwatambua baba zao kwanza
B. Wanawake hufanya kazi ya malezi tu
C. Wanawake wana jukumu la kuvutia watoto
D. Wanawake wana umuhimu zaidi katika maisha ya watoto

15. Kwa maoni yako kwa nini kuna mvuto mkubwa kati ya watoto na mama.
A. Wanaume hawapendi watoto
B. Watoto huwa na mama kwa muda mrefu zaidi
C. Wanawake wanawapa watoto fitina
D. Wanaume hawaelewi ulezi

16. Tunaposema “hatunabudi kuwapa akina mama fursa” tuna maana gani?
A. Lazima tuwape fursa
B. Hakuna haja kuwapa fursa
C. Si lazima wapewe fursa
D. Hatuna fursa ya kuwapa

17. Katika taarifa hii, tumeelezwa tuwape wanawake nafasi ya kujiendeleza katika sehemu hizi zote isipokuwa

A. Kiuchumi B. kielimu C. kibiashara D. Kisiasa

18.Ni nani ametunukiwa jukumu la kwanza la kutambua haki za akina mama

A. Jamii B. watoto C. wanaume D. wao wenyewe

19.Ni methali gani yenye maana sawa na

"Msiba wa kujitakia haina kilio"

A. Fimbo ya mbali haiuwi nyoka
B. Mwiba wa kujidunga huambiwi pole
C. Kamba ya msali haifungi kuni
D. Daima budi, kamba hukata jiwe

20. Kulingana na taarifa hii, msichana anafaa kuolewa

A. Baada ya mtihani
B. Baada ya kukomaa
C. Baada ya kubaleghe
D. Baada ya kusoma

Insha

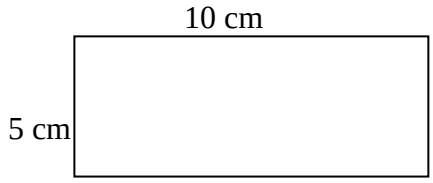
Maagizo: Andika insha, yenye ikianza na maneno hayo,

Punde si punde nikasikia saunti kwa barabara……

PART I1: MATHEMATICS

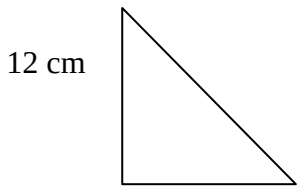
Time: 2 hours

1. Compute the following: 456+236=
2. Use BODMAS to calculate the following: ½ of 25 (895+341)- 64x 20
3. Find the square root: √245/5
4. Kipkorir had 534 goats. He sold 312 goats to his friend. How many goats remained?
5. Solve the problem: 451, 982 ÷ 25 =
6. Solve the equation. 2x + 3x =
7. Calculate the area of the rectangle below:



A. 40 B. 50 C. 45 D. 55

8. Calculate the area of the triangle below.



5 cm

9. I think of a number, add seven to that number and multiply the result by 4. My answer is 100. What is the number?
A. 13 B. 20 C.25 D.18

10. By selling goods for sh 2, 300, a trader made a profit of 15%. How much profit did he get?
A. sh. 345 B. sh. 400 C. sh. 200 D. sh. 300

11. Express 0.0145 as a percentage.
B. 14.5% B. 0.145% C. 1.45% D. 145%

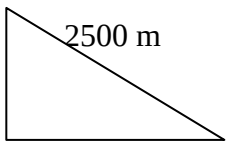
12. Simplify the inequality $8n - 5 > 3n+8$
B. $n>3/5$ B. $n>2\ 3/5$ C. $n<3/5$ D. $n<2\ 3/5$

13. Construct triangle XYZ such that XY=8 cm, YZ=7 cm, and XZ= 5 cm. what is the measure of angle XYZ?
B. 82 B. 60 C. 38 D. 98

14. What is the total value of 7 in 53.0479?
a) 0.07 B. thousandths C. 53.047 D. 0.007

15. What is the value of 22.3-7.046+3.48?
A. 11.774 B. 18.734 C. 18.834 D. 15.254

16. Find the area of the triangle below in hectares



A. 168 B. 840 C. 0.84 D. 84

17. Odhiso slept at 11.45 p.m and woke up at 8.15 a.m. for how long did he sleep.
A. 3 hours 30 min B. 3 hours 50 min C. 4 hours 30 min D. 8 hours 30 min

18. Work out: $\frac{3x-2 - 10 = 0}{4}$

A. 4 B. 14 C. 16 D. 40

19.Calculate the perimeter of the rectangle shown below:

A. 54cm^2 B.15cm C. 24 cm D. 30 cm

20. Solo is three times as old as his sister Akengo who is X years old. How old will solo be after four years.

A. (3x+4)years B. (4x+4) years C. (x+4) years D. (3x-4)years

PART II: ENGLISH
Time: 2 hours

Instructions: Answer all questions.

The passage below contains blank spaces numbered 1-15. For each blank space, choose the best alternative to fill the blank spaces.

Sergeant okello at long last arrived-----1---- a land rover. He was----2--- by a brown man who introduced ---3----- as mr. Mutau. Jerry too the sergeant to the house. Other police-----4----- came by another land rover. All jumped out the vehicle and surrounded the ---5--- where the suspects were.

Sergeant okello and constable okemwa watched a thin brown lady who wanted to ----6---- through the back door very ---7----. The constable tried to get hold of her ---8--- she quickly jumped ----9---- the fence and disappeared in the nearby bush.

	A	B	C	D
1.	In	on	with	by
2.	Leaded	leded	led	lead
3.	Himselves	himself	herself	hisself
4.	Sergeant	constable	corporals	officers
5.	Witness	police	building	thieves
6.	Escape	moved	move	escaped
7.	Careful	carefully	careless	carelessly
8.	Although	nevertheless	and	but
9.	On	behind	over	across

For question 10 and 11 choose the alternative that best completes the given statement.

10. Odhiambo's coat --------- when he washed it in hot water.
Shrink B. Shrank C. shrunk D. shranked

11. The class trip was …….. It will take place next year.

A. Put off B. Put on C. Put forward D. Put up

For question 12 and 14 choose the word that means the same as the underlined words:

12. His aunt made some very *appetizing* stew.
A. Nourishing B. sweet C. tasty D. good

13. There, was a *fatal* accident on the highway yesterday.
A. Dangerous B. deadly C. serious D. harmful
14. In some countries the cow is regarded as a *sacred* animal.
A. Holy B. perfect C. magical D. Special
15. Choose the correct order of adjectives.
The lady was wearing---------- shoes.
A. Black unfashionable leather
B. Leather black unfashionable
C. Unfashionable black leather
D. Unfashionable leather black

Compostion:
Instructions: Write a composition entitled, "the day I will never forget."

PART III: SOCIAL STUDIES
1. The head a county is called----------
a) Member of parliament
b) Chief
c) Governor
d) President

2. Kenya has how many counties?
a) 24 b) 47 c) 210 d) none of the above

3. Which of the following is a fresh water lake in Kenya?
a) lake Baringo b) Lake Naivasha c) Lake Victoria d) Lake Turkana

4. Which of the following mountains is not found in Kenya?
a. Mt. Elgon b) Mt. Kenya c) Mt. Longonot d) All of the above

5. Who is the president of Kenya?
a) Uhuru Kenyatta b) Yoweri Museveni c) Raila Odinga d) Jakayo Kikwete
6. Which one of the following is the main problem facing pastoral farming in Africa?
A. overstocking
B. inadequate pasture and water
C. cattle rustling
D. political instability
7. Below are descriptions of a certain type of marriage in Kenya.
i) Marriage certificate is issued
ii) It is conducted by a government officer
iii) It is monogamous

The type of marriage described above is_____

A. Christian marriage
B. Customary marriage
C. Civil marriage
D. Hindu marriage

8. The time in yaunde 15^0 w is 10.20 am. Calculate the time in Nairobi on longitude 40^0E.
A. 12.00 noon B. 6.40 am C. 8.40 am D. 2.00 pm

9. Which one of the following communities resisted the establishment of colonial rule in Africa?
A. Wanga B. Giriama C. Maasai D. Lozi

10. Which one of the following is not a forest conservation measure?
A. De-forestation B. Afforestation C. Re-afforestation D. Agro-forestry

11. Which one of the following factors best explains why Northern Kenyan is sparsely populated?

A. Political instability
B. Good transport network
C. Pests and diseases
D. Harsh climate condition

12. Which continent has the highest number of countries found in a single continent?
A. Europe B. Asia C. Africa D. America

13. The following are descriptions of a certain town in east Africa.
i) it's an educational centre
ii) Its the headquarters of Aru
iii) it's an industrial centre.
The town described above is----------

A. Nairobi B. Addis-Ababa C. Arusha D. Kampala

14. The **major** problem affecting urban centres today is----------
A. congestions
B. Growth of slums
C. overpopulation
D. unemployment

15. Who advises the government on legal matters?
A. Attorney General.
B. Speaker
C. Cabinet
D. chief Justice
16. Which of the following nations did not colonize Somalia?
A. Nyiraongo B. Kharas C. Drakenberg D. Ahaggar

17.. Which one of the following is correctly matched with its meaning?
A. Katikiro- chief Justice

B. Omulamuzi- treasurer
C. Lukiko- parliament
D. Omwanika- prime minister

18. In the Buganda counties were divided into units called----------
A. Ssazas B. Gombolola C. Kitongole D. districts

19. Who led the children of Israel out of the land of Egypt?
a) David b) Pharaoh c) Moses d) Jesus

20. Who is the mother of Jesus?
a) Mary b) Marthar c) Magdalene d) Bathsheba

21. How many disciples did Jesus Christ have?
a) 11 b) 12 c) 6 d) 13

22. Among the following disciples, who betrayed Jesus Christ?
a) Simon peter b) Matthew c) Philip d) Judas Iscariot

23. Which of the following is NOT a fruit of the Holy Spirit?
a) Faithfulness b) Gentleness c) Humility d) Love

PART V: SCIENCE

Instructions: answer all questions
Time: 2 hours

1. Which set of group provide body building foods only?
A. milk, fish, egg, peas
B. rice, egg, green gram, carrot
C. fruit, millet, banana, ground nut
D. Wheat, potato, meat, egg

2. Germs act on food remains in the mouth to produce a harmful substance called?
A. dental floss B. HIV C. Acid D. cavities

3. Which of the following livestock parasite is found in the external part of an animal?
A. Mites B. Liver fluke C. lungworm D. Snail

4. One evening, a pupil noticed a bright heavenly body that was not twinkling. The heavenly body was likely?
A. Saturn B. Venus C. Earth D. Neptune

5. The function of plasma in the body is to…….
A. fight germs
B. Help in blood clotting
C. combines with oxygen
D. transport food materials

6. Mixing chemicals is one of the common use of water in a ----------

A. House B. hotel C. farm D. shop

7. Germs act on food remains in the mouth to produce a harmful substance called-----

A. Dental floss B. HIV C. Acid D. cavities

8. The following described below are characteristics of clouds:

i) Thick white feather cloud

ii) Low dark cloud and signify heavy rain

iii) Have a flat base

iv) Are found low in the sky

Which among the characteristics belong to cumulus clouds?

A. I and ii B. ii and iv C. I and iii D. ii and iii

9. Which set of group provide body building foods only?

A. milk, fish, eggs, peas

B. rice, egg, green gram, carrot

C. fruit, millet, banana, ground nut

D. wheat, potato, meat, egg

10. Which of the following characteristics is common to both reptiles and amphibians?

A. laid eggs in water

B. breathe by means of gills in early life

C. has varying body temperature

D. body covered with scales

11. Which of the following statements is correct according to the immunization schedule for infants?

A. Polio vaccine is given in two phases
B. The first dose of DPT is given at age of 6 weeks
C. The BCG vaccine is given at the age of 10 weeks.
D. DPT is a vaccine for tetanus only

12. Which of the following shows the use of component of air that makes up 0.97% of air?

A.)Making proteins for plants B.) It is used in breathing C). Manufacture of bulb D. It is used to preserve soft drinks

13. Fruits that are dispersed by water?

A. Have pods with line of weakness
B. Are small and hairy
C. Are hollow and fibrous
D. Are small with hooks

14. Which one of the following is NOT a method of conserving environment?

A. Deforestation B. Terracing C. Construction of dams D. Building gabions

15. Three of the following statements are true about drugs. Which one is **false?**

A. Drugs alter ones mood B. All drugs are medicine C. All medicine are drugs D.Some drugs are chemically prepared while others are obtained from plants.

16. Which one of the following gives the TRUE picture of a balanced diet? One that contains?

A. Proteins, vitamin, carbohydrates,
B. Ugali, meat, tomato, salt, fat, and water
C. Protein, vitamin and ugali
D. Mineral salt, water, oil and fats, proteins, vitamin and carbohydrates

Appendix XI: Academic Performance Test for Class Eight

Instructions: the purpose of this test is to measure academic performance of both learners who stutter and regular learners. Answer all questions. Put a tick in the BEST option.

Speech fluency: a) stutter ( ) B) Non-stutter ( )

Gender: a) male ( ) b) female ( )

PART I: KISWAHILI
Muda: masaa wawili
Maagizo: jibu maswali yote kulingana na maagizo

soma vifungu vifuatavyo. Vina nafasi 1 mpaka 9.Kwa kila nafasi umepewa majibu manne hapo. Chagua jibu lifaalo zaidi kati ya yale uliyopewa.

Kongamano -------1------- kubuni mikakati-2----matumizi ya ----3---lilifanya kikao hivi majuzi katika ukumbi wa wazalendo. ---4---- Waliafikiana kwa kauli moja ---5--- na janga hili linalotishia---6---- jamii zetu. ---7--- Alitoa hotuba iliyoifanya -----8--- kuinamisha vichwa chini huku nyuso zikiwaiva----9---- uchungu. Aliyamatisha hotuba yake kwa kusema, "mimi sina watoto. Wamemezwa na zimwi hili ambalo tunaliangazia hapa leo."

1. A. Wa B. la C. za D. ya
2. A. dhidi ya B. baina ya C. Kati ya D. kabla ya
3. A. dawa ya kulevya B. madawa ya kulevya C. dawa ya kulevya D. madawa ya kulevya
4. A wafisadi B. wabunge C. madaktari D. washikadau
5. A. kulikabili B. kukabiliana C. kutangamana D. kuandamana
6. A. kushirikisha B. kuhalalisha C. kuangamiza D. kujumuisha
7. A. Hatibu B. mkutubi C. Mhutubiaji D. mhasibu
8. A .waathiriwa B. wananchi C. umati D. hadhira
9. A.Kama B. kwa C. na D. bila

Kutoka swali 10 mpaka 20, chagua jibu lililo sahihi

10. vazi livaliwalo na wanawake ndani na kutokea mabegani ni ----------
A. Kanchiri B. Shimizi C. gagulo D. Sidiria

11. **Kanusha**: wewe ulikuwa ukiandika insha kila siku.
A. wewe haujakuwa ukiandika insha kila siku.
B. wewe haukuandika insha kila siku.
C. wewe haukuwa ukiandika insha kila siku.
D. wewe hukuwa ukiandika insha kila siku.

12. chagua sentensi isiyo sahihi kisarufi.
A. Mtoto aliadhibiwa licha ya utundu wake.
B. Doreen alikuja kwangu bali hakunipata.
C. mgonjwa hakumeza dawa wala kula.
D. maadamu u mgeni wetu tutakukaribisha.

14. *Pora* ni kwa tembe ilhali *fahali* ni kwa ----------
A. beberu B. njeku C. mtamba D. mbarika
15. Mwanamume aliyeposa au mwanamke aliye poswa ni----------
A. mchumba B.Kapera C. mwanandoa D. mtalaka

16. Pambo lililo tofauti na mengine ni----------
A. Kibanio B. Kikuba C. Kishafu D. kivumanzi

17. nomino kutokana na kitenzi "gawa" ni----------
A. gawia B. mgao C. ugavana D. gawana

18. Mwenye macho haambiwi tazama. Neno **mwenye** limetumwa kama----------
A. kiwakilishi B. kielezi C. kiarifa D. kivumishi

19. Chagua jibu ambalo kiumbe hakijaambatanishwa na makazi yake.
A. Fuko- tundu
B. Konokono- kombe
C. kasuku- kiota
D. Jana- masega

20. **kamilisha methali**: maji ya kifuu bahari ya----------
A. mvuvi B. Hindi C. chungu D. meli

Insha:
Maagizo: Andika insha ikimalizia ma methali ifuatayo:
Mtaka cha mfunguni sharti ainame.

PART II: ENGLISH
Instructions: answer all questions

Read the passage below. It contains blank spaces numbered 1-15. For each blank spaces, choose the BEST answer from the choices given.

Suddenly, we heard ---1--- cries of "Help! Help! It was a ----2----- cry. We ran to help the ----3---- victim. From a ---4---, we ----5--- see a head pop up and down------6----- the water, ---7---- outstretched hands. Many people joined the rush to save the ----8--- boy. "I am an ------9---- swimmer." I plunged head long into the water and ---10---- to he boy. He-----11---- me for dear life and it was a job to –12--- myself from him. I brought to safety. He had gulped down –13---- of sea water. As luck would have it, there was a doctor on the beach, on holiday. He gave First Aid to the boy. After ---14--- minutes, the boy regained ---15-----.

1. A. feeble B. desperate C. despairing D. dying
2. A. heart throbbing B. heart searching C. heart-less D. heart rending
3. A. unfortunate B. luky C. miserable D. fortunate
4. A afar B. distance C. away D. nearby
5. A. would B. can C. could D. might
6. A on B into C. onto D. in
7. A. with B. by C. beside D. over
8. A. diving B. drowning C. swimming D. sinking
9. A. intellectual B. active C. expert D. experience
10. A. swum B. swim C. swam D. swarm
11. A. clung to B. clung on C. clung up D. clung in
12. A. untangle B. capture C. release D. unsleash
13. A. much B. more C. Little D. many
14. A. few B. many C. a few D. more
15. A. consciousness B. unconsciousness C. senses D. sight

In question 16 and 17, choose the BEST arrangement of the given sentences to make a sensible paragraph:

16. i) The groans of the goat had died away
ii) While the time dragged by
iii) The hungry lion feasted there in my presence
iv) She was dead.

A.i, iv,ii,iii B.i,ii,iii,iv C. ii,iv,iii,i D.ii, I, iii, iv

17.i) Korir held me by the hand as we continued our journey homeward
ii) I walked by his side
iii) In misery and bewilderment
iv) Not knowing what lay in store for me.

A.i, iv,ii,iii B.i,ii,iii,iv C. ii,iv,iii,i D.ii, I, iii, iv

For questions 18 and 19, choose the BEST alternative to complete the sentences.
18. .let us go to school, ……?
A. shall we B. wouldn't we C. will we D. can't we

19. They seldom play together, ……?
A. don't they B. yes they don't C. shall they D. do they

For question 20, choose the alternative which BEST fits in the blank spaces.
20. He has----------, ----------, ----------, ----------dog.
A. an enormous, beautiful, black, American
B. a beautiful, enormous, American, black
C. a beautiful, enormous, black, American
D. an enormous, black, American, beautiful.

Composition
Instructions: write a composition that begins with the following sentence.
I had just crossed the road five minutes ago, I heard a loud sound from behind……

PART III: MATHEMATICS
Time: 2 hours
Instructions: Answer All Questions

1. Find the sixth number in the sequence:

1, 4, 9, 16……..……..

A. 19 B. 20 C. 21 D. 22

2. Which is the greatest number that can divide 18, 42 and 60 without a remainder?

A. 6 B. 2 C. 1260 D. 12

4. The perimeter of square garden is 14 cm. what is its area?

A. 121/2 cm^2 B. 241/2 cm^2 C. 31/2 cm^2 D. 411/2 cm^2

5. A shopkeeper bought 2 trays of eggs at Ksh. 150 each. Each tray holds 30 eggs 12 of them broke and the rest were sold at sh. 5 each. What was the percentage loss?

A. 20% B. 75% C. 25% D. 80%

6. Oketch slept at 2215 hrs and woke up at 0530 hrs. For how long did he sleep?

A. 5 hrs 30 min B. 15 min C. 7 hrs 45 min D. 7 hrs 15 min

7. A trader offers a discount of 12.5% on every item sold. Ann bought two dresses at sh. 2000 each. One blouse at sh 600 and a mattress at sh 1000. What was the total discount allowed on all goods?

A. Sh. 700 B. Sh. 1225 C. Sh. 625 D. Sh 725

8. A rectangle measures 6m by 21/2 cm wide. What is the length of its diagonals?

A. 15 cm B. 61/2 cm C. 17 cm D. 81/2 cm.

9. The mean of six numbers of 6.5. Five of the number is 6, 5, 7, 8 and 6. What is the median of the six numbers?

A. 6.5 B. 7 C. 6 D. 13.5

10. the distance between two towns is 250 km. if the distance is represent on a map by a line measuring 5 cm. what is the scale used in representing the two towns?

A. 1:5000000 B. 1:500000 C. 1:5000 D. 1:50000

11. What is the next number in the pattern ?

2, 3, 5, 8, 13, ---------- ?

A. 19 B. 21 C. 15 D. 17

12. which one of the following is arranged from the smallest to largest number ?

A. 2, 48%, 0.628, ¾

B. 0.628, 2, 48%

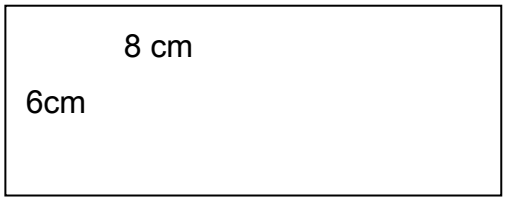
C. 3/4 , 0.6.28, ¾ , 2

D. 48%, 0.628, ¾, 2

13. A road leading to a school administration block from the gate has 52 trees planted on both sides. If the interval between the trees is 2 metres, calculate the length of the road ?

A. 52m B. 104m C. 50m D. 100m

14. a rectangular plot of land 1.6 km by 1.2 km is represented on a map by the diagram below.



What was the scale used?

A. 1 : 2,000 B. 1 : 200,000 C. 1 : 200 D. 1 : 20,000

15. by selling an article at sh. 540, a trader made a loss of 10%. At what price should he have sold the article to make a profit of 10%

A. Sh. 600 B. sh. 660 C. sh. 595 D. sh. 500

16. Construct triangle MNP where line MN = 10 cm, angle MNP = 60^0 and angle NPM = 70^0. What is the length of line NP?

A. 6 cm B. 8 cm C. 7 cm D. 9 cm

17. The marked price of a radio is 20% less than the hire purchase price. Osege bought it on hire purchase terms by paying a down payment of sh. 4000 plus a ten monthly instalment of sh. 2000 each. By how much was the hire purchase more than was the marked price ?

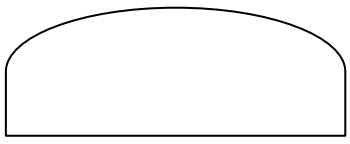
A. Sh. 24,000 B. Sh. 8000 C. Sh. 4000 D. Sh. 20,000

18. Solve for x in the equation :

$$3 + \frac{2(x - 6)}{3} = 7$$

A. 0 B. 12 C. 36 D. 6

19. The figure below represents a semi-circle whose perimeter is 54 m.



Calculate its area in m^2? (Pie= 22/7)

A. 33 B. 1541/4 C. 1321/4 D. 1731/4

20. a saleslady earns a basic salary of sh. 3000 per month. She is also paid a certain commission on goods sold above sh. 6000. If in one month she realized a total sales of sh. 30,000, and a total earning of sh. 5400, what was her percentage commission?
A. 5% B. 10% C. 8% D. 4%

PART IV: SCIENCE
Time: 2 hours
Instructions: answer all questions
1. Which of the following is a vegetable?
A. maize B. beans C. onions D. avocado

2. Which of the following vaccines is given by mouth?
A. whooping cough B.Polio C. tetanus D. T.B

3. Children in class six were taught signs and symptoms of certain disease as follows?
i) Cough may develop
ii) Skin rash
iii) Blood in the urine
iv) Swimming itch

Disease was this?
A. Typhoid B. bilhazia C. cholera D. yellow fever

4. One of the following is NOT the function of amniotic fluid. Which one is it?
A. moistens the foetus
B.makes the foetus move freely.
C.Prevents shock
D. prevents diseases

6. Which one of the following is not a part of the gut?
A. liver B. pancrease C. Colon D. Rectum

7. One of the following is not a legume used as livestock feed. Which one is it?
A. Lucerne B. Rhodes grass C. Desmodium D. clover

8. Where is heat energy least required in the following functions?
A. Condensation B. Washing C. refrigeration D. cooking

9. Which one of the following substances will greatly increase in volume when heated?
A. copper wire B. oxygen C. Water D. spirit

10. Three of the following are signs of ill health in animals. Which one is not?

A. loss of weight B. low yields C. death D. stunted growth

11. The following described below are characteristics of clouds:
i) Thick white feather cloud
ii) Low dark cloud and signify heavy rain
iii) Have a flat base
iv) Are found low in the sky

Which among the characteristics belong to cumulus clouds?

B. I and ii B. ii and iv C. I and iii D. ii and iii

12. Which set of group provide body building foods only?
A. milk, fish, eggs, peas
B. rice, egg, green gram, carrot
C. fruit, millet, banana, ground nut
D. wheat, potato, meat, egg

13. Which of the following characteristics is common to both reptiles and amphibians?
A. laid eggs in water
B. breathe by means of gills in early life
C. has varying body temperature
D. body covered with scales

14. Which of the following statements is correct according to the immunization schedule for infants?
A. Polio vaccine is given in two phases
B. The first dose of DPT is given at age of 6 weeks
C. The BCG vaccine is given at the age of 10 weeks.
D. DPT is a vaccine for tetanus only

15. Which of the following shows the use of component of air that makes up 0.97% of air?
A.)Making proteins for plants B.) It is used in breathing C). Manufacture of bulb D. It is used to preserve soft drinks

16. Fruits that are dispersed by water?
A. Have pods with line of weakness
B. Are small and hairy
C. Are hollow and fibrous
D. Are small with hooks

17. Which one of the following is NOT a method of conserving environment?
A. Deforestation B. Terracing C. Construction of dams D. Building gabions

18. Three of the following statements are true about drugs. Which one is **false?**
A. Drugs alter ones mood B. All drugs are medicine C. All medicine are drugs

D.Some drugs are chemically prepared while others are obtained from plants.

19. Which one of the following gives the TRUE picture of a balanced diet? One that contains?

A. Proteins, vitamin, carbohydrates,
B. Ugali, meat, tomato, salt, fat, and water
C. Protein, vitamin and ugali
D. Mineral salt, water, oil and fats, proteins, vitamin and carbohydrates

PART V: SOCIAL STUDIES
Time: 2 hours
Instructions: answer all questions

1. Who among the following personalities was an explorer as well as a missionary?
A. Dr. Ludwig Krapf B. Henry Morton Stanley C. Richard Burton D. Dr.David Livingstone

2. The time in Accra Ghana is 1.12 pm. The time in town P is 9.28 am. At what longitude does town P lie?
A. 56^{O} W B. 56^{0} E C. 71^{0} W D. 71^{0} E

3. Which Of the Following United Nations Agency is responsible for protecting and resettling of refugees?
A. UNEP B. UNICEF C. UNHRC D. UNDP

4. Below are characteristics of a certain vegetation zone in Africa.
i) Tall coarse grass
ii) Cone shaped trees
iii) Trees have thick stems
iv) Have deciduous trees
The type of vegetation described above is----------

A. Rain forest B. Semi-Desert C. alpine D. Mediterranean

5. Which of the following is NOT a traditional method of predicting weather?
A. observing the strength and direction of wind.
B. observing the cycle of some plants
C. observing the brightness of the star
C. observing the brightness of the star
D. observing the types of clouds present

6. Which of the following groups of communities consist of the Semites?
A. Agew, Burgi, Kimam
B. Baqarra, Tirge, Nubians
C. Dahalo, Bori, Danakil
D. Shilluk, Lawor, Toroso

7. Which one of the following is NOT one of the reasons for the coming of the early visitors to East Africa?
A. to stop slave trade

B. To stop the spread of Islam in Africa.
C. To promote Africa culture
D. To spread Christianity among the Africans
8.The BEST thing to do for people with special needs in the community is to……
A. buy for them the special equipment they need
B. build special schools for them
C. Change our attitudes towards them
D. give them jobs without interviewing them

9. Which one of the following explains why Samori Toure became very powerful?
A. he got wealth from taxing traders
B. he was a good fighter
C. His neighbours were weak
D. he got support from neighbours

10. Which one of the following is NOT true about the population of Germany?
A. the population is mainly made up of young people
B. Germany has a low birth rate
C. Most people are aged
D. population is highly urbanized

11. Which one of the following faiths in Kenya allows polygamy?
A. Sikhism B. Christianity C. Hinduism D. Islam

12. The following are functions of the Independent Electoral and Boundaries Commission **(IEBC) EXCEPT**?
A. determines and reviews boundaries of constituencies
B. nominates presidential candidates
C. Registers voters and maintains voter registers
D. Announces election results

13.. The following are facts about a certain town.
i. is an administrative centre
ii. It is a tourist centre
iii. The largest and most efficient inland port
iv. Has water, air, railway and road transport network

The town described above is----------
A. Mombasa B. Nakuru C. Malindi D. Kisumu

14. The following are the characteristics of a vegetation zone in Africa:
i) Trees have large and broad evergreen leaves
ii) The forest has little or no undercover growth
iii) The trees have thin and smooth barks
v) Trees are mainly hard wood
The vegetation region described above is----------
A. Tropical forest B. Mediterrenean C. Temperates D. mangrove

15. Which of the following comprises of Kwa speakers ONLY?
A. Wassa, Ibo, Yoruba B. Mande, Bambara, Susu
C. Mossi, Fulani, Wolof D. Songhai, Ewe, Bambara
16. The basic unit of a nation is the ----------
A. Family B. generation C. age-set D. clan
17. Which of the following factors explains BEST why Mombasa receives more rainfall than Mogadishu?
A. nearness to large water bodies.
B. winds
C. shape of the coastline
D. latitude

18. Which one of the following crops is a horticultural crop?
A. wheat B. roses C. French beans D. seed maize

19. Which court has the powers to nullify the presidential elections in Kenya?
A. high court B. court of appeal C. supreme court D. kadhis court

20. According to the constitution of Kenya, the president elect must garner 25% of the total votes cast in at least……..counties.
A. 47 B. 20 C. 24 D. 30

C.R.E
21. Who anointed Solomon as a king?
A. Samuel B. Saul C. David D. Nathan
22. The presence of God on Mount Sinai was symbolized by ----------
A. rain B. Pillar of fire C. thunder D. dust

23. The following were gifts presented by the three wise men who visited the baby Jesus. Which one is not?
A. gold B. myrrh C. Silver D. frankincense
24. The Zarapheth widow served Elijah by----------
A. giving him clothes
B. Preparing him a meal
C. washing his clothes
D. giving him her on to serve him

25. Which of the following was not taught in mission schools by early Christian missionaries?
A. 3RS
B. Agriculture
C.Technical skills
D. African traditional customs

Appendix XII: Assessment, Referral and Placement of Children with Speech Difficulties in Kakamega County

Name of Sub-county ……

Name of EARC ……..……..

S/N	Year	Number of learners who stammer/ stutter (assessed and placed in regular schools)
	2003	
	2004	
	2005	
	2006	
	2007	
	2008	
	2009	
	2010	
	2011	
	2012	
	2013	
	2014	
	TOTAL	

Signature:…… Date……

Name of Officer: …….

Designation:…….

Appendix XIII: Baseline Survey on Number of Learners who Stutter in Primary Schools

Class	**Number of learners who stutter**	**Total number of learners in class**
Nursery		
One		
Two		
Three		
Four		
Five		
Six		
Seven		
Eight		
Total		

2. What difficulties do learners who stutter experience in school as a result of stuttering?
   i)……
   ii)……..
   iii)…….
   iv)……
   v)……

Appendix XIV: Results of Baseline Survey on Academic Performance for Learners who Stutter in Class Six, Seven and Eight
Sample results for Learners who Stutter

A. Class six currently (2014- class five) academic results

Learners code	School code	Term 1 Position/out of (MARKS)	Term 2 Position/out of (MARKS)	Term 3 Position/out of (MARKS)	Mean mark 2014
1	B	39/42 (223)	37/41 (211)	38/41 (242)	225
2	B	48/57 (306)	33/57 (295)	39/57 (313)	285
3	A	37/75 (242)	36/75 (237)	31/76 (221)	233
4	A	21/62 (296)	24/62 (305)	36/62 (258)	286
5	C	52/62 (227)	54/62 (264)	53/62 (239)	243
6	F	14/34 (228)	17/33 (236)	11/33 (245)	236
7	H	50/72 (288)	54/72 (259)	56/71 (248)	265
8	H	52/70 (223)	53/70 (241)	54/69 (235)	233
9	H	43/71 (286)	45/71 (253)	47/71 (272)	270
10	I	22/75 (306)	25/75 (298)	21/75 (325)	310
11	J	81/96 (254)	89/96 (261)	80/96 (262)	259
12	K	38/59 (201)	34/55 (190)	20/56 (223)	205
13	K	55/69 (139)	52/65 (147)	54/66 (142)	143
14	L	92/92 (178)	76/91 (185)	77/91 (164)	176
15	M	34/36 (162)	33/36 (178)	31/35 (162)	183
16	N	27/39 (211)	28/39 (231)	32/39 (225)	222
17	N	34/39 (177)	36/39 (131)	38/39 (136)	148
18	O	50/71 (273)	58/71 (268)	62/73 (231)	257
19	P	34/39 (223)	35/38 (231)	36/39 (227)	227
20	F	59/63 (196)	61/63 (197)	60/62 (163)	185
21	F	43/49 (207)	40/49 (234)	42/48 (191)	211
22	Q	39/42 (234)	41/42 (215)	40/42 (207)	219
23	Q	33/51 (239)	32/51 (221)	36/50 (219)	226
24	R	45/49 (215)	43/48 (193)	46/49 (204)	204
25	T	65/77 (221)	6/75 (231)	59/75 (243)	232

B. **Class seven currently (2014- class six) academic results**

Learners code	**School code**	**Term 1 Position/out of (TOTAL MARKS/500)**	**Term 2 Position/out of (TOTAL MARKS/500)**	**Term 3 Position/out of (TOTAL MARKS/500)**	**AVERAGE MARK IN 2014**
1	A	46/81 (290)	33/81 (305)	49/81 (282)	292
2	B	60/78 (199)	66/78 (204)	65/78 (181)	195
3	B	70/78 (201)	71/77 (241)	73/78 (213)	218
4	B	72/78 (192)	75/77 (182)	71/78 (195)	190
5	C	43/52 (208)	43/52 (230)	48/52 (243)	227
6	C	45/52 (248)	34/52 (280)	22/51 (267)	265
7	C	41/51 (215)	38/51 (189)	44/51 (230)	211
8	D	73/89 (253)	86/89 (199)	75/89 (246)	233
9	D	38/82 (273)	44/82 (195)	39/80 (254)	241
10	D	83/87 (278)	55/88 (281)	48/88 (292)	284
11	E	61/68 (191)	59/68 (198)	62/67 (176)	188
12	F	24/28 (177)	20/31 (169)	16/27 (221)	189
13	G	56/75 (217)	54/75 (234)	51/75 (207)	219
14	H	64/76 (255)	69/79(243)	59/79 (268)	255
15	G	29/105 (314)	23/105 (373)	28/105 (302)	330
16	G	43/105 (284)	38/105 (276)	36/105 (291)	284
17	G	61/105 (303)	49/105 (284)	52/105 (275)	287
18	G	71/105	62/105	60/105	
19 (repeater-7)	I	33/33 (192)	33/33 (174)	29/33 (204)	190
20	I	27/32 (246)	29/32 (232)	30/32 (227)	235
21	I	32/32 (117)	30/32 (165)	31/32 (121)	134
22 (repeater-class 7)	I	25/33 (236)	23/33 (224)	31/33 (205)	222
23 (repeater-class 7)	J	24/28 (178)	20/31 (173)	16/27 (229)	193
24	K	52/55 (248)	50/55 (239)	51/55 (241	243
25	O	61/77 (256)	69/77 (245)	68/77 (212)	238
26	P	43/45 (217)	42/44 (233)	41/44 (193)	214
27	Q	58/71 (221)	52/71 (252)	57/70 (238)	237
28	R	31/39 (245)	34/38 (219)	32/38 (239)	234

C. Class Eight

Academic results in 2014 (class seven)

Sample academic Results for Learners who stutter

Learners code	School code	Term 1 Position/out of	Term 2 Position/out of	Term 3 Position/out of	Mean mark 2014
1	C	39/42 (273)	37/41 (241)	38/41 (282)	265
2	A	38/78 (316)	35/78 (305)	30/78 (323)	315
3	A	37/78 (272)	36/78 (275)	31/78 (278)	275
4	B	21/62 (296)	24/62 (305)	36/62 (258)	286
5	B	52/62 (227)	54/62 (264)	53/62 (239)	243
6	F	10/31 (208)	8/31 (216)	7/27 (225)	216
7	H	55/71 (288)	54/71 (259)	56/71 (248)	265
8	H	57/71 (234)	57/71 (256)	58/71 (249)	246
9	H	43/71 (236)	45/71 (223)	47/71 (242)	234
10	I	22/62 (306)	25/62 (298)	21/62 (325)	310
11	J	71/105 (264)	62/105 (284)	60/105 (257)	268
12	K	38/59 (251)	34/55 (243)	20/56 (273)	256
13	K	55/59 (139)	52/55 (147)	54/56 (142)	143
14	L	96/96 (169)	76/89 (180)	77/89 (178)	176
15	M	34/36 (183)	33/36 (194)	31/35 (172)	183
16	N	27/39 (271)	28/39 (284)	32/39 (295)	283
17	N	34/39 (177)	36/39 (131)	38/39 (136)	148
18	O	60/82 (242)	58/81 (232)	62/81 (229)	234
19	P	34/39 (223)	35/38 (231)	36/39 (227)	227
20	F	59/63 (196)	61/63 (197)	60/62 (163)	185
21	F	41/47 (227)	40/49 (254)	42/48 (211)	247
22	Q	39/42 (234)	41/42 (215)	40/42 (207)	219
23	Q	23/42 (306)	22/42 (293)	18/42 (283)	294
24	R	45/49 (215)	43/48 (193)	46/49 (204)	204
25	T	55/57 (138)	51/56 (193)	49/55 (146)	159
26	A	41/78 (284)	44/78 (295)	47/78 (273)	284
27	M	30/36 (112)	32/36 (143)	25/36 (135)	130
28	N	16/39 (334)	19/39 (287)	17/39 (341)	321
29	A	39/78 (311)	38/78 (293)	37/78 (321)	308
30	T	51/55 (183)	47/55 (252)	50/54 (213)	216
31	D	29/33 (232)	21/32 (261)	28/32 (194)	229

D. Summary of Baseline Survey on Academic Performance

Class	**Number of learners who stutter below 250 marks f (%)**	**No. of regular learners below 250 marks**	**No. of LWS above 250 marks**	**No. of regular learners above 250 marks**	**Total LWS f (%)**	**Total Regular learners f (%)**
6	18 (21.43)	349 (15.17)	7 (8.33)	522 (22.69)	25 (29.76)	871 (37.85)
7	20 (23.81)	167 (7.26)	8 (9.52)	556 (24.16)	28 (33.33)	723 (31.42)
8	21 (25.00)	269 (11.69)	10 (11.90)	438 (19.04)	31 (36.90)	707 (30.73)
Total	**59 (70.24%)**	**785 (34.12)**	**25 (29.76)**	**1516 (65.88)**	**84 (100)**	**2301 (100)**

Appendix XV: Krejcie and Morgan (1970) Table for Determining Sample Size from Target Population

TABLE 1

Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size, *S* is sample size.

Appendix XVI: Marking Schemes for Class Six, Seven And Eight Academic Tests

CLASS 6
PART I; KISWAHILI

1. D
2. C
3. A
4. A
5. B
6. A
7. C
8. A
9. C
10. D
11. C
12. B
13. C
14. B
15. A
16. D
17. B
18. A

Insha:
maudhui- alama 20
Msamiati na muundo- alama 9
Mpango na mtindo- alama 5
Mtiririko na mshikamano- alama 3
Sarufi na maendelezo- alama 3

PART II; ENGLISH

1. D
2. B
3. B
4. A
5. A
6. C
7. C
8. B
9. D
10. C
11. D
12. B
13. B
14. C
15. C

Composition:
Introduction- 2 marks
Creativity- 3 marks
Imaginative- 2 marks
Punctuation marks- 2 marks
Sentence structure- 3 marks
Use of idioms- 2 marks
Similes- 2 marks

Correct tense- 2 marks
Flow of story- 3 marks
Well connected paragraphs- 2 marks
Main body- 15 marks
Conclusion- 2 marks

PART C; MATHEMATICS

1. A
2. A
3. 1/3
4. A
5. C
6. B
7. $50CM^2$
8. $30CM^2$
9. D
10. D
11. C
12. B
13. C
14. D
15. B

PART IV ; SCIENCE

1. A
1. B
2. B
3. A
4. B
5. A
6. C
7. B
8. B
9. D
10. C
11. C
12. C
13. A
14. C
15. C

PART V; SOCIAL STUDIES

1. A
2. D
3. C
4. A
5. A
6. B

7. B
8. B
9. D
10. A
11. C
12. D
13 .D
14. A
15. A
16. A
17. B
18. B
19. B
20. B

CLASS SEVEN

PART I; KISWAHILI

1. D
2. C
3. A
4. A
5. B
6. B
7. C
8. A
9. B
10. D
11. D
12. B
13. A
14. D
15. B
16. A
17. C
18. D
19. B

20. D

21. Insha:
22. maudhui- alama 20
23. Msamiati na muundo- alama 9
24. Mpango na mtindo- alama 5
25. Mtiririko na mshikamano- alama 3
26. Sarufi na maendelezo- alama 3

PART II ; MATHEMATICS

1. 692
2. 14170
3. 7
4. 222
5. 18079.28
6. 5x
7. 50
8. 30
9. D
10. D
11. C
12. B
13. D
14. D
15. B
16. D
17. D
18. A
19. D
20. A

PART III; ENGLISH

1. A
2. C
3. B
4. D
5. C
6. A
7. B
8. D
9. C
10. B
11. A
12. C
13. B

14. A
15. C

Composition:
Introduction- 2 marks
Creativity- 3 marks
Imaginative- 2 marks
Punctuation marks- 2 marks
Sentence structure- 3 marks
Use of idioms- 2 marks
Similes- 2 marks
Correct tense- 2 marks
Flow of story- 3 marks
Well connected paragraphs- 2 marks
Main body- 15 marks
Conclusion- 2 marks

PART IV; SOCIAL STUDIES

1. C
2. B
3. C
4. A
5. A
6. B
7. B
8. D
9. B
10. A
11. D
12. C
13. C
14. A
15. A
16. A
17. C
18. A
19. C
20. A
21. B
22. D
23. B

PART V; SCIENCE

1. A
2. A
3. A
4. B
5. D
6. C
7. A
8. C
9. A
10. C
11. A
12. C
13. C
14. A
15. B
16. D

CLASS 8

PART I ; KISWAHILI

1. B
2. A
3. A
4. D
5. B
6. C
7. A
8. D
9. B
10. B
11. D
12. C
13. A
14. B
15. A
16. C.
17. B
18. A
19. D.
20. C

Insha:

maudhui- alama 20

Msamiati na muundo- alama 9

Mpango na mtindo- alama 5
Mtiririko na mshikamano- alama 3
Sarufi na maendelezo- alama 3

PART II; ENGLISH

1. A
2. A
3. C
4. B
5. C
6. D
7. A
8. B
9. B
10. C
11. B
12. A
13. A
14. C
15. A
16. A
17. B
18. A
19. D
20. C

Composition:
Introduction- 2 marks
Creativity- 3 marks
Imaginative- 2 marks
Punctuation marks- 2 marks
Sentence structure- 3 marks
Use of idioms- 2 marks
Similes- 2 marks
Correct tense- 2 marks
Flow of story- 3 marks
Well connected paragraphs- 2 marks
Main body- 15 marks
Conclusion- 2 marks

PART III; MATHEMATICS

1. 36
2. A
3. C

4. 12.25
5. A
6. D
7. A
8. B
9. C
10. A
11. 20
12. D
13. C
14. D
15. B
16 C.
17. C
18. B
19. D
20. B

PART IV; SCIENCE

1. C
2. B
3. B
4. D
5. B

6. A
7. D
8. C
9. B
10. C
11. E
12. C
13. G
14. B
15. B
16. B

PART V: SOCIAL STUDIES

1. **A**
2. **A**
3. **C**
4. **D**
5. **D**
6. **B**
7. **C**
8. **C**
9. **B**
10. **A**
11. **D**
12. **B**
13. **A**
14. **A**
15. **A**

16. **A**
17. **C**
18. **B**
19. **C**
20. **C**
21. **C**
22. **B**
23. **C**

Appendix XVII: Informed Consent Form for Parents

Last Name:…….

Parent's First Name:……

Child's First Name:……..……

Child's DOB:……..

Stuttering Present: Yes ( ) No ( )

SCHOOL CODE:……..……..

PHONE NUMBER:…….

I, _____, realize that my child has been chosen to voluntarily participate in this study, as well as allow my child to be observed in the classroom and outside the classroom during a research on stuttering. This will help the research on stuttering be conducted by Okutoyi Joel. I will allow my child who stutter/who do not stutter to avail himself/herself for answering questionnaire, being present when interview and observations are conducted and allow academic performance tests be done on my child and the results got be used during the research. I will provide accurate information on my child's behavior and success, as well as allow my child's grades, assessments, and class work to be viewed for the purpose of the study. I grant permission for the researcher to record the conversation held at the interview for future reference. I understand that there is no compensation for this research. I also am aware that I can withdraw participation of my child if I become uncomfortable at any point. Finally, I am aware that although my identity will remain anonymous, the information I provide will be analyzed and used in this study, as well as shared with the larger research community.

If you have any issues or concerns during the research process, please feel free to contact Joel Okutoyi- 0726989854, Email: joelokutoyi@gmail.com

Signature of parent:…….

Date: ……

Appendix XVIII: SPSS Analysis (Test for Multicollinearity, Regression Analysis and Correlation Results)

APPENDIX XVIII
Test for multicollinearity on classroom participation

		Tolerance
1	(Constant)	
	gender of pupil	.920
	occupation of the father	.820
	occupation of the mother	.893
	level of education of father	.715
	level of education of mother	.696
	age of the pupil	.926
2	(Constant)	
	gender of pupil	.817
	occupation of the father	.691
	occupation of the mother	.842
	level of education of father	.660
	level of education of mother	.637
	age of the pupil	.844
	Self-Stigma	.724
	Anxiety to speak	.478
	Embarassment	.515
	Fear	.615
	Frustrations	.745

From the table, predictor variables did not correlate each other as seen in the tolerance value. All the predictor
values (stuttering effects) have a tolerance value above .01. i.e. self-stigma (.72), anxiety (.48), embarassment (.52), fear (.62), frustrations (.75).

Test for multicollinearity for influence of stuttering effects on social interaction output

Model		Tolerance
1	(Constant)	
	gender of pupil	.920
	occupation of the father	.820
	occupation of the mother	.893
	level of education of father	.715
	level of education of mother	.696
	age of the pupil	.926
2	(Constant)	
	gender of pupil	.817
	occupation of the father	.691
	occupation of the mother	.842
	level of education of father	.660
	level of education of mother	.637
	age of the pupil	.844
	Self-Stigma	.724
	Anxiety	.478
	Embarassment	.515
	Fear	.615
	Frustrations	.745

From table 2, all the predictor variables are not correlating with each other, because the tolerance

value of the 5 stuttering effects is above .01. i.e self-stigma (.72), anxiety (.48), embarassment (.52), fear (.62), frustrations (.75).

Model Summary for Effects of Stuttering on Social Interactions among LWS

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.463[a]	.215	.144	.26505	.215	3.052	6	69	.011
2	.890[b]	.793	.756	.14151	.578	34.607	5	64	.000

d. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father
e. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, mean of Stigma, mean of Anxiety to speak, mean of embarrassment while speaking
f. Dependent Variable: mean of social interaction

Model Significance on Effects of Stuttering on Social Interactions

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.287	6	.214	3.052	.011[a]
	Residual	4.707	69	.070		
	Total	5.993	75			
2	Regression	4.752	11	.432	21.571	.000[b]
	Residual	1.242	64	.020		
	Total	5.993	75			

d. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father
e. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking
f. Dependent Variable: mean of social interaction

Model Coefficient on Effects of Stuttering on Social Interactions (n= 76)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.357	.288		11.658	.000
	gender of pupil	-.104	.054	-.219	-1.938	.057
	occupation of the father	.051	.020	.302	2.523	.014
	occupation of the mother	.036	.036	.114	.995	.323
	level of education of father	-.045	.027	-.212	-1.660	.102
	level of education of mother	.031	.024	.165	1.274	.207
	age of the pupil	-.067	.033	-.230	-2.049	.044
2	(Constant)	1.648	.364		4.526	.000
	gender of pupil	-.033	.031	-.070	-1.085	.282
	occupation of the father	.020	.012	.121	1.745	.086
	occupation of the mother	-.011	.020	-.034	-.547	.586
	level of education of father	-.012	.015	-.057	-.812	.420
	level of education of mother	.004	.013	.020	.284	.778
	age of the pupil	-.032	.018	-.109	-1.733	.088
	Stigma	-.092	.038	-.164	-2.403	.019
	Anxiety to speak	-.271	.068	-.323	-3.976	.000
	embarrassment while speaking	-.071	.029	-.201	-2.439	.018
	Fear to speak	-.293	.077	-.279	-3.792	.000
	Frustrations while speaking	-.073	.025	-.197	-2.880	.005
a. Dependent Variable: mean of social interaction						

Regression Analysis on Model Summary for the Effects of Stuttering On Classroom Participation

Model	R	R^2	Adjusted R^2	Std. Error of Estimate	Change Statistics				
					R^2 Change	F Change	df1	df2	Sig. F Change
1	.469[a]	.220	.150	.26904	.220	3.143	6	69	.009
2	.865[b]	.749	.704	.15873	.529	26.096	5	64	.000

d. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father

e. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking

f. Dependent Variable: mean of classroom participation

Model Significance on Effects of Stuttering on Classroom Participation

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.365	6	.227	3.143	.009[a]
	Residual	4.850	69	.072		
	Total	6.214	75			
2	Regression	4.652	11	.423	16.787	.000[b]
	Residual	1.562	64	.025		
	Total	6.214	75			

d. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father

e. Predictors: (Constant), age of the pupil, occupation of the mother, gender of pupil, level of education of mother, occupation of the father, level of education of father, mean of fear, mean of frustrations, Stigmatization, Anxiety to speak, embarrassment while speaking
f. Dependent Variable: mean of classroom participation

Coefficients on influence of Stuttering Effects on Classroom Participation

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.364	.292		11.509	.000
	gender of pupil	-.117	.055	-.241	-2.144	.036
	occupation of the father	.052	.020	.305	2.553	.013
	occupation of the mother	.030	.036	.094	.823	.413
	level of education of father	-.060	.028	-.277	-2.178	.033
	level of education of mother	.041	.024	.218	1.691	.096
	age of the pupil	-.057	.033	-.192	-1.718	.090
2	(Constant)	1.814	.408		4.443	.000
	gender of pupil	-.044	.034	-.091	-1.292	.201
	occupation of the father	.028	.013	.165	2.166	.034
	occupation of the mother	-.011	.022	-.033	-.482	.631
	level of education of father	-.025	.017	-.113	-1.449	.152
	level of education of mother	.017	.015	.092	1.153	.253
	age of the pupil	-.016	.021	-.054	-.779	.439
	Stigma	-.146	.043	-.256	-3.404	.001
	Anxiety to speak	-.187	.077	-.218	-2.438	.018
	embarrassment while speaking	-.087	.033	-.242	-2.668	.010
	Fear	-.262	.087	-.246	-3.025	.004
	Frustrations	-.069	.029	-.181	-2.405	.019
a. Dependent Variable: mean of classroom participation						

Control Variables			Overal Academic Performance	Anxiety	Fear	Frustration	Stigma	Embarasment
COMPUTE INTERVEN=MEAN(gender, mother's education ,fathers education, age, fathers occupation, mother's occupation	**Correlations for class seven**							
	Overall Performance	Significance (2-tailed)	.	.001	.000	.000	.001	.000
		Df	0	22	22	22	22	22
	Anxiety	Correlation	-.640	1.000	.363	.416	.170	.523
		Significance (2-tailed)	.001	.	.081	.043	.428	.009
		Df	22	0	22	22	22	22
	Fear	Correlation	-.817	.363	1.000	.777	.247	.788
		Significance (2-tailed)	.000	.081	.	.000	.245	.000
		df	22	22	0	22	22	22
	Frustration	Correlation	-.914	.416	.777	1.000	.608	.751
		Significance (2-tailed)	.000	.043	.000	.	.002	.000
		df	22	22	22	0	22	22
	Self-Stigma	Correlation	-.620	.170	.247	.608	1.000	.385
		Significance (2-tailed)	.001	.428	.245	.002	.	.063
		df	22	22	22	22	0	22
	Embarasment	Correlation	-.889	.523	.788	.751	.385	1.000
		Significance (2-tailed)	.000	.009	.000	.000	.063	.
		df	22	22	22	22	22	0

a. class of the learner = class 8

E.

Control Variables			Overall Performance	Anxiety	Fear	Frustration	Stigma	Embarasment
COMPUTE INTERVENE=MEAN(gender, mother education, father education, age)	Overall Performance	Correlation	1.000	-.408	-.817	-.836	-.662	-.793
		Significance (2-tailed)	.	.060	.000	.000	.001	.000
		df	0	20	20	20	20	20
	Anxiety	Correlation	-.408	1.000	.145	.009	.239	-.018
		Significance (2-tailed)	.060	.	.520	.970	.284	.937
		df	20	0	20	20	20	20
	Fear	Correlation	-.817	.145	1.000	.688	.315	.767
		Significance (2-tailed)	.000	.520	.	.000	.154	.000
		df	20	20	0	20	20	20
	Frustration	Correlation	-.836	.009	.688	1.000	.463	.812
		Significance (2-tailed)	.000	.970	.000	.	.030	.000
		df	20	20	20	0	20	20
	Stigma	Correlation	-.662	.239	.315	.463	1.000	.268
		Significance (2-tailed)	.001	.284	.154	.030	.	.228
		df	20	20	20	20	0	20
	Embarasment	Correlation	-.793	-.018	.767	.812	.268	1.000
		Significance (2-tailed)	.000	.937	.000	.000	.228	.
		df	20	20	20	20	20	0

a. class of the learner = class 7

Results of Correlation on stuttering Effects on Academic Performance among LWS in Class Six.

Correlations[a]

Control Variables			Overal academic Performance	Anxiety	Fear	Frustration	Stigma	Embarasment
COMPUTE INTERVENE=MEAN(gender,mumedction,fatheduc,age)	Overal Performance	Correlation	1.000	-.488	-.731	-.717	-.595	-.844
		Significance (2-tailed)	.	.010	.000	.000	.001	.000
		Df	0	25	25	25	25	25
	Anxiety	Correlation	-.488	1.000	-.052	.218	-.002	.481
		Significance (2-tailed)	.010	.	.796	.276	.993	.011
		df	25	0	25	25	25	25
	Fear	Correlation	-.731	-.052	1.000	.642	.391	.486
		Significance (2-tailed)	.000	.796	.	.000	.044	.010
		df	25	25	0	25	25	25
	Frustration	Correlation	-.717	.218	.642	1.000	.151	.409
		Significance (2-tailed)	.000	.276	.000	.	.454	.034
		df	25	25	25	0	25	25
	Stigma	Correlation	-.595	-.002	.391	.151	1.000	.471
		Significance (2-tailed)	.001	.993	.044	.454	.	.013
		df	25	25	25	25	0	25
	Embarasment	Correlation	-.844	.481	.486	.409	.471	1.000
		Significance (2-tailed)	.000	.011	.010	.034	.013	.
		df	25	25	25	25	25	0

a. class of the learner = class 6