Relationship between Achievement Motivation Personality Indicator and Academic Achievement among Gifted and Talented Learners in Public Primary Schools in Nairobi County

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ABSTRACT

Gifted and talented learners exhibit personality characteristics that make them manifest different competencies to undertake tasks that their peers cannot. However, in Nairobi County, learning competencies of talented and gifted pupils in public primary schools are below average. Thus, the purpose of this study was to determine the relationship between achievement motivation characteristics and academic achievement among gifted and talented learners in public primary schools in Nairobi County. The study adopted a field survey research design. Target population comprised 3,247 teachers and 19,863 learners in classes VI-VIII totalling 23, 110 participants from which a sample of 391 respondents was determined using Yamane's Formula. Stratified sampling was used to create 17 strata based on number of sub-counties in Nairobi County. From each sub-county, 13 teachers and 10 gifted and talented learners in classes were randomly selected. This procedure realized a sample of 221 teachers and 170 gifted and talented learners in classes VI-VIII. Questionnaires were used to collect data from teachers and learners. A pilot study was conducted among 40 respondents from a sample of public primary schools in Nairobi County to establish validity and reliability. Validity was ascertained based on the views of experts in educational psychology and special needs. Reliability was determined using split-half technique and reliability coefficient, r = 0.725, was obtained using Cronbach's Alpha Method which indicated high reliability. Qualitative data were analysed thematically along the objectives and presented thematically in narrative forms. Quantitative data were analysed descriptively using frequencies and percentages and inferentially using Pearson's Product Moment Correlation Analysis with the help of Statistical Packages for Social Sciences (SPSS 23) to test the hypotheses. Quantitative findings were presented using tables and charts. Results indicated that gifted learners in Nairobi County public schools benefitted from achievement motivation. Analysis of the results addressing H_0: showed that achievement motivation has a statistically significant influence on academic achievement among gifted and talented learners in public primary schools in Nairobi County. The variable is positively correlated with number work activities (r = .581, p = .001), language activities (r = .556, p = .002), and essential life skills (r = .514, p = .004). It was recommended that Teachers and parents should create an appropriate learning environment for gifted pupils in public schools to create a positive self-concept, motivation, regulated learning, and problem-solving approach to improve their academic achievement.

Keywords: *Achievement Motivation Characteristics; Academic Achievement; Gifted and Talented Learners; Public Primary Schools; Nairobi County*
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I. INTRODUCTION

Giftedness in children may manifest itself in one or more domain, such as, intellectual, creative, artistic, leadership or in a specific academic field such as language arts, mathematics or science. According to Vialle and Rodgers (2010), the experience of being gifted is often accompanied by particular social-emotional needs. These children may require educational services or activities not ordinarily provided by the school in order to fully develop such capabilities to their highest potential (Johnsen, 2012). Cognizant of these assertions, Gargiulo (2011) asserts that gifted and talented children are those identified by professionally qualified persons who by virtue of their outstanding abilities are capable of high performance. Gagne (2003) also indicate that giftedness refers to exceptionally innate ability to excel and potential to perform in any field.

Porter and Louse (2012) aver that this distinction allows people to include within the field of gifted population those whose circumstances propel them educationally and those who display exceptional abilities and personality traits in everyday settings. Thus, personality of gifted and talented learners refers to a combination of features, qualities and characteristics which form and determine their academic behaviour. According to Porter and Louse (2012), personality is the characteristic sets of behaviours, cognitions, and emotional patterns that evolve from biological and environmental factors.

Ackerman and Heggestad (2010) posit that personality traits can simply be said to be distinct qualities that are the embodiment of an individual and are regarded as one's habitual patterns of behaviour, temperament and emotion. Historically, Wallace and Adams (2011) indicate that the concepts of giftedness and talentedness date back to the ancient period in Sparta, where soldiers were respected and given importance to the extent that the skills to fight showed strength in wars, outstanding leadership qualities became the criteria of giftedness. In the same vein, Sharma (2012) avers that Plato labeled men and women gifted on the basis of intellectual abilities and were in favour of identifying the most able youths so that they could receive education and show their leadership qualities. In the education context, Heward (2012) notes that gifted and talented learners are identified as those learners with outstanding ability and are capable of high performance. According to Heward (2012), such learners require differentiated educational programs and services beyond those normally provided by the regular school programs and many countries have adopted a competency-based curriculum (CBC) to cater for the educational needs and talents of such learners.

In keeping with these assertions, Watson and Clark (2013) also opine that personality determines a set of important characteristics and that is how gifted and talented learners interact with others. This indicates that human personality is the combination of a number of traits. In other words, traits or personality indicators are the sum total of stable characteristic in a person across different times and situation, which make him or her unique or distance from others. Daminabo (2013) asserts that such personality indicators include, but not limited to, self-efficacy, self-esteem, self-concept, emotional regulation, problem-solving capabilities and above all, achievement motivation, which are key determinants of academic achievement among gifted and talented learners. According to Reusen (2013), academic achievement entails the ability of learners in task completion and competencies. For example, in Yemeni, any learner in primary school who manifest ability to complete tasks, identify academic problems and solve them, high communicative competency, innovativeness and creativity, team-building with peers and leadership skills is considered to be high achievers (Agran, 2012).

This is the case in countries such as the Netherlands, Germany and United Kingdom (Agran, 2012). Despite these postulations, many learners are still low achievers and manifest poor competencies in different tasks while at school. However, the extent to which such personality indicators or traits of gifted and talented learners influence their academic achievement still remains fully unexplored. According to Barrick and Mount (2015), self-concept, emotional regulation, achievement motivation and problem-solving capabilities of gifted and talented learners prepare them for different worldviews and thus for behaving differently in various social and educational settings.

In India, Wright (2013) avers that predictors of academic achievement among gifted and talented learners often lay on a continuum with cognitive measures, intelligence and mental abilities at one extreme and non-cognitive variables such as personality indicators and characteristics. This implies that, although results of studies trying to predict academic achievement have yielded different results, they have consistently pointed out the role of cognitive abilities and personality characteristics in academic achievement.

In many countries in Sub-Saharan Africa, Baum, Owen and Oreck (2015) note that, in order to meet the needs of learners who are gifted and talented, there have been curriculum changes which compact acceleration and enrichment and specific interventions to motivate learners from diverse groups. Baum et al (2015) further posits that some learners who are gifted and talented are often familiar with the concepts being taught in their classrooms or they can master the concepts in a fraction of the time that it takes their classmates. Despite these initiatives, academic achievement of gifted and talented learners has been low.

In Nigeria, for example, Ado (2011) report that, despite introduction of competency-based curriculum to cater for the educational needs of learners who manifest instances of high self-efficacy skills, self-concept, achievement motivation and socio-emotional regulation, many gifted and talented learners in primary schools still register low grades in internal and national examinations. An assessment survey by Adirika and Okoye (2017) revealed that, in 2017 national examinations in Nigeria, only 35.9% of the identified gifted and talented learners registered quality grades for admission into high schools. This is against the backdrop of the view that gifted and talented learners possess personality traits such as self-efficacy and self-regulated learning skills which accord the ability to concentrate and understand concepts during instruction.

In KwaZulu Natal Province in South Africa, Marietjie and Jeanne-Marie (2017) note that personality characteristics of gifted and talented learners such as achievement motivation and self-concept attributes are regarded as key determinants of learners' academic achievement. According to Marietjie and Jeanne-Marie (2017), gifted and talented learners with high self-efficacy and self-concept skills are more motivated to learn. A similar survey conducted in Laikipia County by Awandu (2014) showed similar results with 41.8% of primary school learners being gifted and talented in different unique ways. According to Awandu (2014), such learners manifest high self-esteem, positive self-concept, self-regulated learning and high achievement motivation personality traits. However, such learners still register low academic grades in internal and national examinations.

1.2 Statement of the Problem

Gifted and talented learners exhibit personality characteristics which make them perform academic tasks which are beyond their agemates and are thus, capable of high achievement. According to Awandu (2014), such learners manifest high self-esteem, positive self-concept, self-regulated learning and high academic achievement motivation personality traits. Nairobi County is no exception with many primary school learners who manifest giftedness and talentedness while undertaking different academic activities. However, this has not reflected in their learning outcomes and competencies.

As indicated earlier, a study carried out in Nairobi County by Karimi (2020) revealed that, though there are slight improvements, learners in public primary schools have low learning outcomes and competencies in numeracy as well as literacy education programmes. Karimi (2020) noted that, despite the introduction of initiatives such as Tusome Literacy Project, the majority of learners in public primary schools show inability to complete tasks, inability to identify problems and solve them, poor communicative competency, lack of creativity, poor team building with peers and low leadership skills.

This lends credence to the findings of an earlier report by Uwezo (2016) which also noted that, in Nairobi County, many learners aged between 7-13 years manifest low competencies in basic numeracy, language and essential life skills such as team building with peers and leadership skills. Uwezo (2016) asserts that only 26.92% of learners aged between 7-13 years manifest improved literacy and communicative competency in English and Kiswahili, 18.74% can undertake basic numeracy and number work activities while only 20.8% have mastered essential life skills such as team building and leadership competencies. Hence this study was designed to investigate personality characteristics as predictors of academic achievement of gifted and talented learners in public primary schools.

1.3 Objectives of the Study

To establish the extent to which achievement motivation characteristics predict academic achievement among gifted and talented learners in public primary schools in Nairobi County.

1.4 Research Hypotheses

H_0: There is no statistically significant relationship between achievement motivation and academic achievement characteristics among gifted and talented learners in public primary schools in Nairobi County.

II. LITERATURE REVIEW

Achievement motivation is another personality characteristic possessed by gifted and talented learners. According to Wail, Zaharah, Asmawi and Siraj (2013), achievement Motivation is a consistent striving force of an individual to achieve success to certain standard of excellence in competing situation. Among gifted and talented learners, achievement motivation relates motivation to personality traits such terms as energy level, enthusiasm, zeal, motivational vigor, need for achievement and perseverance. Wail et al (2013) further assert that achievement motivational constructs and models reflect a trend from a trait approach to a focus on cognitive and affective processes underlying achievement behaviours of gifted and talented learners.

The impact of motivation in predicting the academic success of gifted and talented students has been investigated in a number of research. For instance, Lavrijsen et al., 2021 evaluated the relationship between a variety of motivational processes and academic success in a large sample of seventh-grade Flemish students, adjusting for intellect and personality. Students' intellect and desire for cognition, i.e., their personal choice for engaging in cognitively challenging activities, have proven to be substantial indicators of academic success. Nevertheless, even after adjusting for intellect and personality, a number of motivational processes caused extra, unique variation in accomplishment, totalling roughly a quarter of the variance in school performance that was explained. Furthermore, academic self-concept, success objectives, achievement motivation, autonomous motivation, and effort beliefs each explained a distinct percentage of the variation in academic accomplishment (Lavrijsen et al., 2021). Although these results were generally similar across several operationalizations of accomplishment, motivational components explained greater variation when achievement was evaluated by school grades as opposed to standardized exams. Given that motivational dynamics are more adjustable than variations in IQ and personality, the distinctive positive connections between motivation and accomplishment imply that boosting student motivation is a worthwhile endeavor.

Separately, Meier et al. (2014) compared several motivational factors associated with learning and accomplishment to see whether forms of academic motivation influence students' attendance in a special class for the gifted in full-time ability grouping. In contrast to academic self-concepts, academic interests, or mastery and

performance objectives, the desire for cognition was the strongest predictor of talented students' participation in specialized courses. Consequently, it may be important to investigate the desire for cognition as an indication of the need for advancement alternatives among students. In addition, our results may prompt a debate as to whether adolescents with a high cognitive demand might benefit from participation in gifted programs.

According to Steinmayr et al. (2019), accomplishment motivation encompasses several distinct categories, including ability self-concepts, task values, objectives, and achievement motivations. The reviewed motivational constructs are viewed as predictors of school students' academic achievement beyond students' cognitive abilities, and prior achievement demonstrated that the majority of motivational constructs predicted academic achievement beyond intelligence, and that students' ability self-concepts and task values are more predictive of their achievement than goals and achievement motives. Steinmayr et al. (2019) examined whether previously reported outcomes can be repeated when ability self-concepts, task values, objectives, and achievement motivations are all measured with the same degree of detail as accomplishment metrics such as math achievement hope and math grades. The findings revealed that domain-specific ability self-concept, motivations, task values, and learning objectives, but not performance goals, predicted a considerable amount of variation in grades, with ability self-concept being the greatest predictor.

The aforementioned results are reinforced by Desmet and Pereira (2021), who report that the majority of students liked the Achievement Motivation Enhancement sessions and believed they benefitted from discussing their experiences in small groups. Students acknowledged enhanced self-perceptions and cited learning goal evaluation, goal formulation, and self-regulation skills as beneficial (Mammadov et al., 2018). It has also been observed that the accomplishment motivation of talented children tends to tie motivation to personality attributes and use phrases such as energy level, excitement, fervor, motivational vigor, desire for achievement, and persistence. In an attempt to improve performance on standardized examinations, students and teachers should better focus the importance of motivational interventions when they are motivated (Volpe, 2016).

In a study carried out in Guyana, Kahyaoglu (2015) established that gifted and talented learners usually possess a desire for or interest in success in academic activities. Kahyaoglu (2015) further established that gifted learners exhibit achievement motivation traits which create a pathway for passion that provides meaning and a clarified sense of identity that develops goal commitment, strategic intent and feeling of empowerment. Gifted and talented learners with high achievement motivation are self-confident individuals who function well according to the situation. In other words, a motivated gifted and talented learner is likely to exhibit self-assurance, positive outlook, pragmatism, hope and faith in a bright future while an individual lacking in achievement motivation would feel pessimism, distrust and despair.

In Australia, Gherasim, Butnaru and Jacob (2015) opine that gifted and talented learners who possess achievement motivation characteristics often register impressive academic performance in internal and national examinations. To support this assertion, Martin (2015) conducted a study in 123 elementary schools in Australia, which revealed that the most noticeable trait among gifted and talented learners is the desire to achieve in their academic activities. Martin (2015) found that gifted and talented learners possess achievement motivation which enables them to excel in areas where their peers cannot. This indicates that the motivation of the learner to succeed is often considered as a central factor in academic achievement.

In other words, achievement motivation traits inspire gifted and talented learners acquire new knowledge and skills; and increase the self-competence which is highly valued in all human societies. In Africa, Al-Dhamit and Kreishan (2016) aver that achievement motivation among gifted and talented learners is the pursuit of excellence. In a study carried out in South Africa, Sikhwari (2016) indicated that, since the need for achievement vary from one gifted learner to another, it may help in planning activities to know where learners stand, which learners have high achievement needs which are low in achievement and which seems primarily motivated by a need to avoid failure. Sikhwari (2016) further revealed that gifted and talented learners who are more highly motivated to achieve are likely to respond well to challenging assignments, strict grading corrective feedback, new or unusual problems and the chance to try again. These findings point to the fact that gifted and talented learners who are oriented towards academic achievement feel in control.

Besides, being motivated keeps gifted and talented learners dynamic and gives them self-respect; they set moderately difficult, but easily achievable targets, which help them, achieve their objectives. These findings were corroborated by a study conducted in Tanzania by Christina (2015) which established that achievement motivated gifted and talented learners prefer to work on a problem rather than leaving the outcome to chance. Christina (2015) noted that achievement motivated gifted and talented learners seem to be more concerned with their personal achievement rather than the rewards of success.

In Kenya, there is recognition of achievement motivation among gifted and talented learners as the central force behind their determined actions on the academic and social life. For example, a study carried out in primary

schools in Wareng District in Uasin Gishu County by Sambu, Kalla and Njue (2014) revealed that achievement motivation among learners who are gifted contributes to their academic performance. Sambu et al (2014) found that gifted and talented learners have the potential for performing better as compared to their counterparts in terms of their age, experience or learning environment.

In public primary schools in Nairobi County, Kipkoech, Kindiki and Jepchirchir (2016) posit that many gifted and talented learners are intrinsically motivated by the joy of learning. According to Kipkoech et al (2016), gifted and talented learners who manifest high levels of achievement motivation register impressive grades in national examinations. However, much is yet to be done since Kipkoech et al (2016) as did other empirical studies have not interrogated the extent to which specific achievement motivation characteristic manifested by gifted and talented learners predict their academic achievement in public primary schools.

2.1 Theoretical Framework

This study was guided by theory of giftedness and the academic achievement theory. The theory of giftedness was postulated by Renzulli (1978). This theory holds that gifted behaviour among people occurs when there is an interaction among three basic clusters of human traits, that is, above-average general and/or specific abilities, high levels of task commitment (motivation) and high levels of creativity. This theory is further premised on the overlap and interaction between and among the three clusters of traits that create the conditions for making giftedness. In other words, giftedness is not viewed as an absolute or fixed state of being, that is, the 'state of having and not having'. Rather, it is viewed as a developmental set of behaviours that can be applied to problem-solving situations. Varying kinds and degrees of gifted behaviours can be developed and displayed in certain people, at certain times, and under certain circumstances. In the education context, Renzulli (1978) holds that gifted and talented children are those who possess or are capable of developing this composite of traits and applying them to any potentially valuable area of human performance.

According to Renzulli (1978), each characteristic plays an important role in the development of gifted behaviour. Well above-average ability is defined by Renzulli as either general ability that can be applied across all domains and/or specific ability, which consists of the ability to perform at a high level within a specific domain. Renzulli (1978) defines well above-average ability as that possessed by those individuals performing in the top 15-20% of any domain. This view differs from the traditional view of giftedness as comprising those scoring in the top 3-5% on a standardized measure of intelligence (Marland, 1972). In his study on the applicability of the components of Renzulli's model, Delisle (1982) found that non-intellective factors are just as important for creative production as intellectual factors are.

The model is also supported by the work of Gubbins (2010), who showed through stepwise multiple regression that above-average ability is a necessary but not sufficient condition for high-level creative productivity. However, Delisle (2010) criticized Renzulli's model has been criticized for not demonstrating correlations between later life achievements and the traits or experiences of children with various levels of IQ. Nonetheless, this theory fits this study due to the fact that personality traits of gifted and talented learners enable them to undertake different activities under different circumstances. In this study, this theory was relevant in that, as indicated by Renzulli (1978), learners in a schoolhouse are best described as test-taking or lesson-learning giftedness and is the form of giftedness most often emphasized in school. In other words, learners in schoolhouse giftedness who display characteristics such as self-concept, problem-solving, self-regulated learning and achievement motivation personality traits are excellent consumers of knowledge manifested through excellent performance in examinations.

The study was also guided by the academic achievement theory whose proponent was Walberg (2012). This theory posits that the psychological characteristics of individual learners and their immediate psychological environments influence educational outcomes, that is, cognitive, behavioural, and attitudinal. Walberg (2012) identified nine key variables that influence educational outcomes as: learners' prior achievement, motivation, developmental level, quantity and quality of instruction, classroom climate, parental involvement, home environment, peer group and exposure to mass media outside of school.

Walberg (2012) further asserts that psychosocial characteristics such as self-concept, attitudes, behaviours, intrinsic motivation, and overall learner engagement in learning are useful in curriculum evaluation studies and can provide teachers with useful information to arrange more optimally functioning classrooms. In this study, to improve academic achievement and educational productivity of students, educational process goals as well as achievement goals must be considered.

Thus, the relevance of this theory is that learning outcome goals are interpreted to include learner perceptions of the social environment, creativity, self-concept, participation in extra-curricular activities, and interest in the subject matter. In other words, ignoring these perceptions and experiences in favor of traditional goals measured by test scores decrease motivation and lower achievement.

II. METHODOLOGY

3.1 Research Design

In this study, a field research design was adopted to execute interpretative procedures by using quantitative and qualitative methods. This approach was suitable since this study involved collection and analysis of both quantitative and qualitative data in a single study. According to Creswell (2014), in quantitative method, the researcher asks specific questions and collects quantifiable data from a large number of participants. In this case, data are collected using questionnaires. At the same time, qualitative data were collected by relying on the views of participants and collecting data consisting largely of words from the participants. In this case, data were collected using observation schedules.

Thus, the study adopted two research designs to address both quantitative and qualitative methods. These included descriptive survey and phenomenological research designs. Descriptive survey research design was applied to implement the quantitative methods. This is because, according to Creswell (2014), to address the quantitativeness aspect, descriptive survey research design uses a quantitative research method by collecting quantifiable information to be used for statistical analysis of the sample. This design was suitable in this study since it resulted in well-validated and substantiated quantitative findings. In this case, data were collected using questionnaires. However, to implement the qualitative method, the phenomenological research design was applied for this was an approach to qualitative research that focuses on the commonality of a lived experience within a particular group. According to Creswell (2014), the fundamental goal of the approach is to arrive at a description of the nature of the particular phenomenon. In this study, this design was relevant in that respondents had the opportunity to express their views and lived experiences with regard to the influence of personality characteristics on the academic achievement of gifted and talented learners in primary schools. In this case, data were collected using observation schedules. The results of quantitative and qualitative methods were then merged and triangulated to provide adequate interpretations of the variables under investigations.

3.2 Location of Study

The study was carried out in Nairobi County. According to Kenya National Bureau of Statistics (KNBS, 2019), the county has an approximate population of 4, 397, 073 persons and covers an area of 696 km^2, that is, a population density of 6, 318 persons per km.^{2} The main economic activities in Nairobi County include; business activities, tourism and subsistence agriculture among others. Nairobi County boasts of a high number of primary school learners who manifest giftedness and talentedness while undertaking different academic activities. However, this has not reflected in their academic achievement. As indicated earlier, a study undertaken in Nairobi County by Karimi (2020) found that, despite different initiatives such as Tusome Literacy Project, majority of learners in public primary schools show inability to complete tasks, inability to identify problems and solve them, poor communicative competency, lack of creativity, poor team building with peers and low leadership skills. Despite this state of affairs, few empirical studies have interrogated the extent to which personality characteristics influence academic achievement of gifted and talented learners in public primary schools; thus, the focus on Nairobi County as the location of study.

3.3 Target Population

Nairobi County has 225 public primary schools and thus, the target population will be 23, 110 participants, which comprised 3247 teachers and 19, 863 learners in classes VI-VIII as shown in Table1:

Table 1: Target Population of the Study

Categories	Target Population
Teachers	3247
Learners in Classes VI-VIII	19, 863
Total	**23, 110**

3.4 Sampling and Sampling Techniques

To obtain a sample size that has an adequate size relative to the goals of the study, the researcher adopted Yamane's Formula as follows:

$$N_0 = N/ (1 + N (e^2))$$

Where, N_0 = desired sample size at 95% confidence interval

N= Target Population

e = Confidence level of 5% (decimal equivalent is 0.05)

Thus, desired sample was:

$$N_0 = 23,110 / (1 + 23,110(0.05)^2)$$
$$N_0 = 391 \text{ respondents}$$

Stratified sampling was used to create 17 different strata based on the number of sub-counties in the Nairobi County to ensure homogeneity during sampling. This ensured that all sub-counties are proportionately represented. From each sub-county, 13 teachers were selected using simple random sampling to avoid bias and 10 gifted and talented learners in classes VI-VIII identified using observation checklist. This sampling procedure enabled the researcher to realize a sample of 34 headteachers, 188 teachers and 170 gifted and talented learners in classes VI-VIII as shown in Table 2;

Table 2: Sampling Grid

Categories	Target Population	Sample Size	Sampling Techniques
Teachers	3247	221	Simple random sampling
Learners in Classes VI-VIII	19, 863	170	Purposive sampling
Total	**23, 110**	**391**	

3.5 Data Collection Instruments

These are tools which were used to gather information about the specific set themes of research objectives. These included questionnaire for teachers and an observation checklist for the researcher. The researcher also undertook a document analysis of school records to ascertain the academic achievement of the screened gifted and talented learners from the general group of learners in public primary schools.

3.6 Pilot Study

Piloting of research instruments was conducted among 40 respondents from a sample of public primary schools in Nairobi County since according to Kothari (2005); pilot sample should constitute 10% of the study sample (10.0% of 391). The purpose of piloting was to check for suitability and the clarity of the questions on the instruments designed, relevance of the information being sought and the appropriateness of the language used. The results of the piloting were also used to pretest the research instruments in order to validate and ascertain their reliability.

It also anticipates the problems the respondents encounter such as interpretation while filling the questionnaires and time management for the data collection. The observation schedules were given trial runs to ensure that questions are clearly worded and draw an appropriate range of responses which assisted the researcher to identify areas of revision. The respondents in the piloting were not involved in the main study.

3.6.1 Validity

In order to test the validity, items were analyzed to check for content validity where the researcher with the help of experts in educational psychology and special needs education went through each item and the responses given to establish whether the items generated the required information. Test items that were not adequate in terms of generating the required information were dropped and others suggested that were appropriate in generating the information. In this study, therefore, soon after interviewing, the researcher transcribed the observation checklist results for approval of the interpretations made.

The suggestions given thereafter were accommodated in the study on improving the validity of the conclusions to be made. This is because according to Creswell (2014), researchers evaluate the content validity by going to a panel of experts and have them identify whether the questions are valid. Creswell (2014) further asserts that validity means that the individual's scores from an instrument make sense, are meaningful and enable the researcher to draw good conclusions from the sample being studied to the population.

3.6.2 Reliability

The researcher, with the help of University Supervisors, critically assessed the consistency of the responses on the pilot questionnaires to make a judgement on their reliability. The researcher examined the research instruments for appropriateness of items so as to identify any ambiguous and unclear items. Such items were restated to ensure that the respondents clearly understood them. The split - half technique was used to establish the reliability of the test items. In this case, the test items were administered once to a group of respondents and results divided into two equal

categories known as 'halves' Reliability coefficient, r = 0.725, between the two 'halves' was obtained using Cronbach Alpha Method, which indicated high internal reliability. According to Kothari (2005), any Cronbach Alpha value between 0 and 1 implies high internal consistency.

3.7 Data Analysis and Presentation

Data analysis began by identifying common themes. The relevant information was broken into phrases or sentences, which reflected a single, specific thought. The responses to the close-ended items were assigned codes and labels. Frequency counts of the responses were obtained to generate information about the respondents and to illustrate the general trend of findings on the various variables that were under investigation. Qualitative data was analyzed thematically along the study objectives and presented in narrative forms. Quantitative data were analyzed using descriptive statistics and inferentially using Pearson's Product Moment Correlation Analysis with the help of Statistical Packages for Social Science (SPSS Version 23) and to test all the research hypotheses. To find out if there is no statistically significant relationship between self-concept characteristics and academic achievement among gifted and talented learners in public primary schools in Nairobi County, statistical averages and Pearson Correlation were used to analyze the relationships.

The same statistical methods were used to test if there is no statistically significant relationship between self-regulated learning characteristics and academic achievement among gifted and talented learners in public primary schools in Nairobi County. The hypothesis regarding if there is no statistically significant relationship between problem-solving and academic achievement characteristics among gifted and talented learners in public primary schools in Nairobi County was also tested using the statistical averages and Pearson Correlation. Finally, similar approaches were used to find out if there is no statistically significant relationship between achievement motivation and academic achievement characteristics among gifted and talented learners in public primary schools in Nairobi County. Pearson's Analysis was suitable since it allowed the researcher to undertake a correlation test between independent variable and each of the indicators of the dependent variables (competency in number work, language and essential life activities). The quantitative findings of the study were presented using tables and charts.

IV: RESEARCH FINDINGS AND DISCUSSIONS

4.1 Response Rate

In this study, 221 questionnaires were administered to teachers in 29 public primary schools out of which 185 questionnaires were filled and returned. At the same time, the researcher undertook observation of 150 learners in Classes VI-VIII (five per school). This yielded response rates shown in Table 3:

Table 3: Response Rates

| Respondents	Sampled Respondents	Those Who Participated	Achieved Return Rate (%)
Teachers	221	185	83.7
Learners in Classes VI-VII	170	150	88.2
Total	**391**	**335**	**85.7**

Table 3 shows that teachers registered a response rate of 83.7% whereas learners in classes VI-VIII registered a response rate of 88.2%. This yielded an average response rate of 85.7%. This confirmed the findings of Creswell (2014) that a response rate above 75.0% is adequate to allow for generalization of the outcomes to the target population.

4.2 Respondents' Demographic Information

The research instruments solicited for demographic information of the respondents. These included gender and level of education.

4.2.1 Gender of Surveyed Learners and Teachers

Information about the distribution of the respondents by gender was collected and the results are shown in Figure 2:
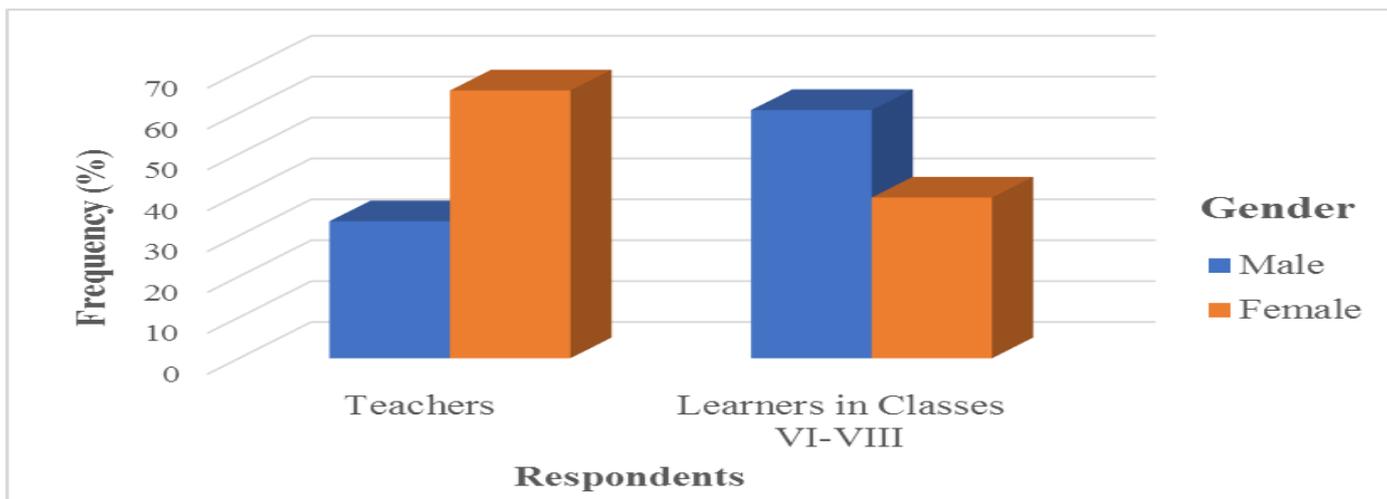
Figure 1: Distribution of the Respondents by Gender

Figure 1 indicates that majority, 123(66.5%), of the teachers were female whereas their male counterparts constituted 62(33.5%). Most, 91(60.7%), of the learners in Classes VI-VIII were male whereas their male counterparts constituted 59(39.3%) of the sample. This information shows that there was adequate gender parity at all levels of the study and that the extent to which personality characteristics predict academic achievement of gifted and talented learners in public primary schools' concerned both male and female stakeholders.

4.2.2 Level of Education of Teachers
The research instruments also elicited information on level of education of teachers. Results are shown in Figure 3;
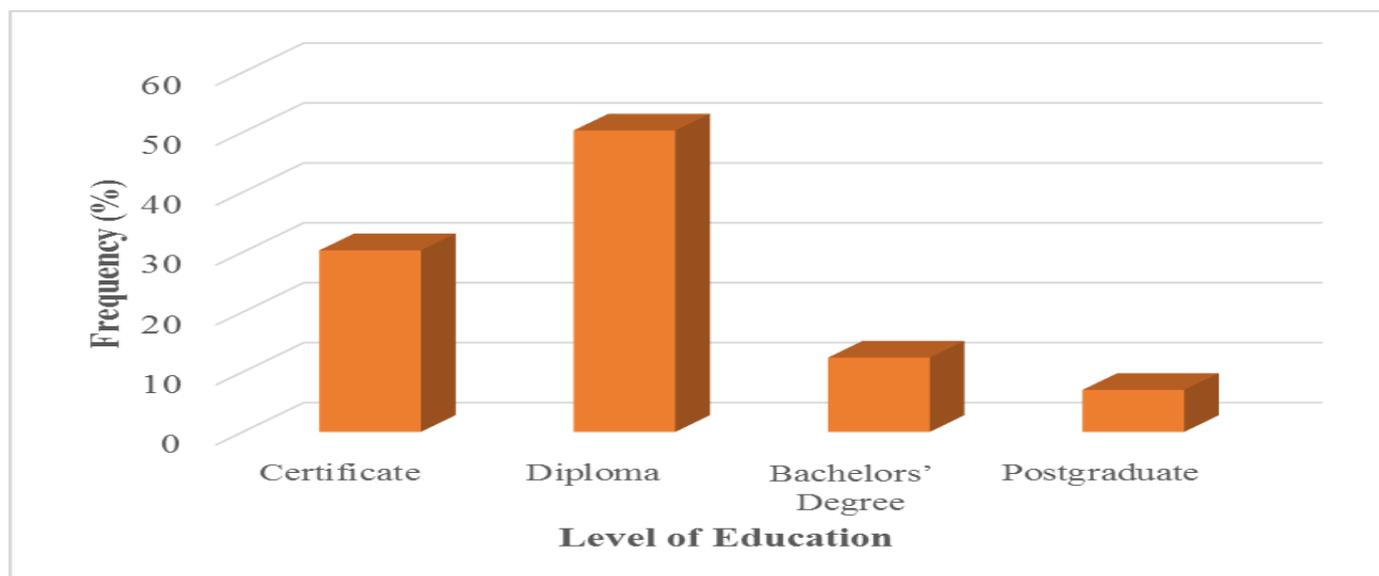
Figure 2: Level of Education of Teachers

Figure 2 shows that slightly more than half, 93(50.3%), of the teachers had Diplomas, 56(30.3%) had certificate qualifications, 23(12.4%) had Bachelors' Degrees whereas 13(7.0%) had postgraduate qualifications. This information reveals that the respondents had the required qualifications as teachers which thus, reinforced the expectations of being competent to respond to the research questions about the extent to which personality characteristics predict development of academic achievement of gifted and talented learners in public primary schools.

4.3 Achievement Motivation Characteristics of Gifted and Talented Learners
The study sought to determine the extent to which achievement motivation characteristics influence academic achievement of gifted and talented learners in public primary schools. Descriptive data were collected and the results are shown in Table 4;

Table 4: Teachers' Views on the Learners' Achievement Motivation

Test Items	Ratings				
	SA	A	U	D	SD
	%	%	%	%	%
Gifted learners set goals to improve their competencies	52.4	9.2	4.3	21.1	4.3
Gifted and talented learners usually experience pleasure and satisfaction in learning new concepts	60.5	7.6	7.0	22.2	2.7
On many occasions, gifted and talented learners work hard because they consider primary education prepares them for the careers, they long for	68.1	5.9	3.2	17.8	5.0
Gifted learners are motivated to prove that they are capable of completing school	63.2	3.8	5.9	23.2	3.9
Gifted and talented learners usually believe that when they succeed in primary school, they feel important	60.0	6.5	4.3	20.0	9.2
Gifted learners desire to learn for the satisfaction they feel when they are in the process of accomplishing difficult academic tasks	55.7	8.2	5.4	21.1	9.6
Gifted and talented learners usually take stock of their academic results so as to improve further	51.9	8.6	4.9	30.3	4.3
In many occasions, gifted learners are motivated to learn for the pleasure that they experience in broadening their knowledge about subjects which appeal to them	50.3	9.2	3.8	21.6	15.1
Gifted and talented usually desire to learn for the pleasure that they experience while they surpass their personal accomplishments	49.3	11.4	4.9	22.2	12.2
Gifted and talented learners believe that academic achievement will enable them to obtain a more prestigious job later on	53.5	12.4	5.9	19.5	8.7

Table 4 reveals that slightly more than half, 97(52.4%), of the teachers strongly agreed with the view that gifted and talented learners set goals to improve their competencies as did 17(9.2%) who agreed. However, only a paltry 8(4.3%) were undecided, 55(29.7%) disagreed whereas 8(4.3%) strongly disagreed. The researcher also noted that, in comparison with peers, gifted and talented learners always set goals as a way of improving their competencies in different areas of learning. The researcher observed;

> *Many gifted and talented learners usually set targets to master different areas of competencies within certain period of time. Some plan to master number work problems within a day or complete reading a 100-page story book in a day or memorizing a poem within a day.*

This implies that goal setting is a major predictor of academic achievement among gifted and talented learners. This corroborates that the findings of a study carried out in South Africa in which Sikhwari (2016) found that setting goals helps in planning activities to know where learners stand, which learners have high achievement needs which are low in achievement and which seems primarily motivated by a need to avoid failure. Sikhwari (2016) further revealed that gifted and talented learners who are more highly motivated to achieve are likely to respond well to challenging assignments, strict grading corrective feedback, new or unusual problems and the chance to try again. These findings point to the fact that gifted and talented learners who are oriented towards academic achievement feel in control.

The study also found out that 112(60.5%) of the teachers strongly agreed with the view that gifted and talented learners usually experience pleasure and satisfaction in learning new concepts with a paltry 14(7.6%) being in agreement. However, only 41(22.2%) disagreed whereas 5(2.7%) strongly disagreed.

This was further supported by 103(55.7%) of the teachers who strongly agreed that gifted and talented learners desire to learn for the satisfaction they feel when they are in the process of accomplishing difficult academic tasks with 15(8.2%) in agreement. However, 39(21.1%) disagreed whereas 18(9.6%) strongly disagreed. Slightly more than half, 93(50.3%), of the teachers strongly agreed with the view that, on many occasions, gifted and talented learners are motivated to learn for the pleasure that they experience in broadening their knowledge about subjects which appeal to them while 17(9.2%) agreed. However, 40(21.6%) disagreed whereas 28(15.1%) strongly disagreed.

Table 4 shows that 92(49.3%) of the teachers strongly agreed with the view that gifted and talented usually desire to learn for the pleasure that they experience while they surpass their personal accomplishments while 21(11.4%) agreed. Slightly more than a third, 41(22.2%) disagreed whereas 22(12.2%) strongly disagreed. The study also revealed that 126(68.1%) of the teachers strongly agreed with the view that, on many occasions, gifted and talented learners work hard because they consider primary education prepares them for the careers they long for while 11(5.9%) agreed. Only 33(17.8%) disagreed whereas 9(5.0%) strongly disagreed.

Majority, 117(63.2%), of the teachers strongly agreed with the view that gifted and talented learners are motivated to prove that they are capable of completing school while 7(3.8%) agreed. Though, only a paltry 43(23.2%) disagreed whereas 7(3.9%) strongly disagreed. Majority, 111(60.0%), of the teachers strongly agreed with the view that gifted and talented learners usually believe that when they succeed in primary school, they feel important while 12(6.5%) agreed. Only 37(20.0%) disagreed whereas 17(9.2%) strongly disagreed.

During the observation sessions, the researcher noted that gifted and talented learners feel motivated to learn new ideas. It was observed;

> *Gifted and talented learners always felt satisfied and happy whenever they were taught new concepts and having accomplished certain assignments and tasks drawn from the new concepts learnt. They feel good when they try out new ideas, master new skills and apply unique and new approaches to accomplish tasks.*

This indicates that pleasure and motivation to learn new concepts play a crucial role in pushing gifted and talented learners to achieve in their academic activities. This supports the findings of a study carried out in Tanzania by Christina (2015) which established that achievement motivated gifted and talented learners prefer to work on a problem rather than leaving the outcome to chance. Christina (2015) noted that achievement motivated gifted and talented learners seem to be more concerned with their personal achievement rather than the rewards of success.

These findings further lend credence to the assertions of Kipkoech et al (2016) posit that many gifted and talented learners are intrinsically motivated by the joy of learning. This indicates that, compared to their peers, gifted and talented learners possess a desire for or interest in success in academic activities. Besides, they exhibit achievement motivation traits which create a pathway for passion that provides meaning and a clarified sense of identity that develops goal commitment, strategic intent and feeling of empowerment.

This attests to the fact that gifted and talented learners with high achievement motivation are self-confident individuals who function well according to the situation. In other words, a motivated gifted and talented learner is likely to exhibit self-assurance, positive outlook, pragmatism, hope and faith in a bright future while an individual lacking in achievement motivation would feel pessimism, distrust and despair. Slightly more than half, 96(51.9%), of the teachers were in strong agreement that gifted and talented learners usually take stock of their academic results so as to improve further while 16(8.6%) agreed. However, a small proportion, 56(30.3%), disagreed whereas 8(4.3%) strongly disagreed. The study also found that 99(53.5%), of the teachers strongly agreed with the view that gifted and talented learners believe that academic achievement will enable them to obtain a more prestigious job later on while 23(12.4%) agreed. However, 36(19.5%) of them disagreed whereas 16(8.7%) strongly disagreed. It was noted that the gifted and talented learners understand the progress of their performance in mastery of competencies. The researcher observed;

> *Most of the gifted and talented learners were able to remember that, at some point; they could read story books, understand certain vocabularies, solve basic number work tasks and give an account of the steps they have undertaken to improve. Most of these appreciate corrective feedback from their teachers and work towards achieving the desired goals such as securing a prestigious job in future.*

This further supports the assertions of Sikhwari (2016) that gifted and talented learners who are more highly motivated to achieve are likely to respond well to challenging assignments, strict grading corrective feedback, new or unusual problems and the chance to try again. In summary, these findings underscore the vitality of the ability of gifted and talented learners to appreciate the value of academic achievement and corrective feedback.

4.8.1 Inferential Findings on Influence of Achievement Motivation

To test the null hypothesis, H_0: *There is no statistically significant relationship between achievement motivation characteristics and academic achievement among gifted and talented learners in public primary schools in Nairobi County,* data were collected from one gifted and talented learner per school (totaling 29) from the sampled public primary schools on how often (Often = 3, Rarely = 2 and Never = 1) the learners manifest achievement motivation characteristics (set academic goals and analyzes results for improvement) and the levels of academic competencies and achievement (Excellent = 4, Good = 3, Fair = 2 and Below Average = 1). The results are shown in Table 5:

Table 5: Frequency of Manifestation of Achievement Motivation

How Often Gifted and Talented Learners Manifest Achievement Motivation Characteristics	Competency in Number Work Activities	Competency in Language Activities	Competency in Life Activities
1	1	1	2
1	3	2	3
1	1	2	3
2	2	3	4
3	3	3	4
3	2	4	2
2	3	4	4
3	4	4	4
2	2	4	4
1	3	2	2
2	2	2	3
1	2	2	1
2	2	2	3
1	2	3	2
3	4	2	4
3	3	3	4
1	2	3	1
3	4	4	3
2	3	2	4
3	3	2	3
1	2	1	1
1	3	2	2
1	2	2	4
2	2	2	4
2	4	3	4
1	1	1	2
2	3	2	3
1	2	2	4
2	2	3	4

Table 5 shows that gifted and talented learners who frequently manifest achievement motivation characteristics register excellent academic competencies and achievement. This affirms the fact that gifted and talented learners who often set academic goals and analyzes results for improvement, register excellent number work, language and essential life skills. These results were subjected to Pearson's Product Moment Correlation Analysis and results are shown in Table 6:

Table 6: Correlation: Achievement Motivation versus Academic Achievement

		X1	B	C	D
X1	Pearson Correlation	1	.581**	.556**	.514**
	Sig. (2-tailed)		.001	.002	.004
B	Pearson Correlation	.581**	1	.416*	.371*
	Sig. (2-tailed)	.001		.025	.047
C	Pearson Correlation	.556**	.416*	1	.355
	Sig. (2-tailed)	.002	.025		.059
D	Pearson Correlation	.514**	.371*	.355	1
	Sig. (2-tailed)	.004	.047	.059	
N=29					

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Key: X_4-Achievement Motivation Characteristics; B-Competency in Number work Activities; C-Competency in Language Activities; D-Competency in Essential Life Skills

Table 6 shows that there is a strong correlation between self-concept characteristics as a personality trait and academic achievement of gifted and talented learners in public primary schools (r (29) = 0.581, 0.556, 0.514, p = 0.001, 0.002, 0.004 at α = 0.05). Thus, hypothesis, H_0, is rejected since the p-values are less than α (0.05). Thus, these findings thus attest to the fact that gifted and talented learners who often set academic goals besides analyzing results for improvement, score highly in number work, language and essential life skills than their peers.

The study has established that achievement motivation is a personality characteristic possessed by gifted and talented learners. According to Wail, Zaharah, Asmawi and Siraj (2013), achievement Motivation is a consistent striving force of an individual to achieve success to certain standard of excellence in competing situation. Among gifted and talented learners, achievement motivation relates motivation to personality traits such terms as energy level, enthusiasm, zeal, motivational vigor, need for achievement and perseverance. Wail et al (2013) further assert that achievement motivational constructs and models reflect a trend from a trait approach to a focus on cognitive and affective processes underlying achievement behaviours of gifted and talented learners.

The current research's finings agree with literature regarding the impact of motivation on the academic performance of gifted pupils. The impact of motivation in predicting the academic success of gifted and talented students has been investigated in a number of research. For instance, Lavrijsen et al., 2021 evaluated the relationship between a variety of motivational processes and academic success in a large sample of seventh-grade Flemish students, adjusting for intellect and personality. Students' intellect and desire for cognition, i.e., their personal choice for engaging in cognitively challenging activities, have proven to be substantial indicators of academic success. Nevertheless, even after adjusting for intellect and personality, a number of motivational processes caused extra, unique variation in accomplishment, totalling roughly a quarter of the variance in school performance that was explained. Furthermore, academic self-concept, success objectives, achievement motivation, autonomous motivation, and effort beliefs each explained a distinct percentage of the variation in academic accomplishment (Lavrijsen et al., 2021). Although these results were generally similar across several operationalizations of accomplishment, motivational components explained greater variation when achievement was evaluated by school grades as opposed to standardized exams. Given that motivational dynamics are more adjustable than variations in IQ and personality, the distinctive positive connections between motivation and accomplishment imply that boosting student motivation is a worthwhile endeavor.

There are several motivational factors associated with learning and accomplishment. Such forms of academic motivation are known to influence students' attendance in a special class for the gifted in full-time ability grouping. In contrast to academic self-concepts, academic interests, or mastery and performance objectives, the desire for cognition was the strongest predictor of talented students' participation in specialized courses. Consequently, it may be important to investigate the desire for cognition as an indication of the need for advancement alternatives among students. In addition, our results may prompt a debate as to whether adolescents with a high cognitive demand might benefit from participation in gifted programs.

The study established that the motivation that comes with accomplishment encourages gifted learners to perform better. The results concur with the assertions by o Steinmayr et al. (2019), who indicate that accomplishment motivation encompasses several distinct categories, including ability self-concepts, task values, objectives, and achievement motivations. The reviewed motivational constructs are viewed as predictors of school students' academic achievement beyond students' cognitive abilities, and prior achievement demonstrated that the majority of motivational constructs predicted academic achievement beyond intelligence, and that students' ability self-concepts and task values are more predictive of their achievement than goals and achievement motives. Steinmayr et al. (2019) examined whether previously reported outcomes can be repeated when ability self-concepts, task values, objectives, and achievement motivations are all measured with the same degree of detail as accomplishment metrics such as math achievement hope and math grades. The findings revealed that domain-specific ability self-concept, motivations, task values, and learning objectives, but not performance goals, predicted a considerable amount of variation in grades, with ability self-concept being the greatest predictor.

The aforementioned results are reinforced by Desmet and Pereira (2021), who report that the majority of students liked the Achievement Motivation Enhancement sessions and believed they benefitted from discussing their experiences in small groups. Students acknowledged enhanced self-perceptions and cited learning goal evaluation, goal formulation, and self-regulation skills as beneficial (Mammadov et al., 2018). It has also been observed that the accomplishment motivation of talented children tends to tie motivation to personality attributes and use phrases such as energy level, excitement, fervor, motivational vigor, desire for achievement, and persistence. In an attempt to improve performance on standardized examinations, students and teachers should better focus the importance of motivational interventions when they are motivated (Volpe, 2016).

The study found out that desire is the major factor that pushes gifted learners to work hard and perform better in school. The results are supported by those of Kahyaoglu (2015) who established that gifted and talented learners

usually possess a desire for or interest in success in academic activities. Kahyaoglu (2015) further established that gifted learners exhibit achievement motivation traits which create a pathway for passion that provides meaning and a clarified sense of identity that develops goal commitment, strategic intent and feeling of empowerment. Gifted and talented learners with high achievement motivation are self-confident individuals who function well according to the situation. In other words, a motivated gifted and talented learner is likely to exhibit self-assurance, positive outlook, pragmatism, hope and faith in a bright future while an individual lacking in achievement motivation would feel pessimism, distrust and despair. Jacob (2015) also opines that gifted and talented learners who possess achievement motivation characteristics often register impressive academic performance in internal and national examinations. To support this assertion, Martin (2015) conducted a study in 123 elementary schools in Australia, which revealed that the most noticeable trait among gifted and talented learners is the desire to achieve in their academic activities. Martin (2015) found that gifted and talented learners possess achievement motivation which enables them to excel in areas where their peers cannot. This indicates that the motivation of the learner to succeed is often considered as a central factor in academic achievement.

According to the results of this study, achievement motivation traits inspire gifted and talented learners acquire new knowledge and skills. Consequently, this increases the learners' self-competence which is highly valued in all human societies. In line with these findings, Dhamit and Kreishan (2016) aver that achievement motivation among gifted and talented learners is the pursuit of excellence. Also, Sikhwari (2016) indicated that, since the need for achievement vary from one gifted learner to another, it may help in planning activities to know where learners stand, which learners have high achievement needs which are low in achievement and which seems primarily motivated by a need to avoid failure. Sikhwari (2016) further revealed that gifted and talented learners who are more highly motivated to achieve are likely to respond well to challenging assignments, strict grading corrective feedback, new or unusual problems and the chance to try again. These findings point to the fact that gifted and talented learners who are oriented towards academic achievement feel in control.

Besides, being motivated, keeps gifted and talented learners dynamic and gives them self-respect; they set moderately difficult, but easily achievable targets, which help them, achieve their objectives. These findings were corroborated by a study conducted in Tanzania by Christina (2015) which established that achievement motivated gifted and talented learners prefer to work on a problem rather than leaving the outcome to chance. Christina (2015) noted that achievement motivated gifted and talented learners seem to be more concerned with their personal achievement rather than the rewards of success. It should be noted that there is recognition of achievement motivation among gifted and talented learners as the central force behind their determined actions on the academic and social life in Kenya. For example, Sambu, Kalla and Njue (2014) revealed that achievement motivation among learners who are gifted contributes to their academic performance. Sambu et al (2014) found that gifted and talented learners have the potential for performing better as compared to their counterparts in terms of their age, experience or learning environment. Also, Kipkoech et al. (2016) posit that many gifted and talented learners are intrinsically motivated by the joy of learning. According to Kipkoech et al (2016), gifted and talented learners who manifest high levels of achievement motivation register impressive grades in national examinations. However, much is yet to be done since Kipkoech et al (2016) as did other empirical studies have not interrogated the extent to which specific achievement motivation characteristic manifested by gifted and talented learners predict their academic achievement in public primary schools.

V. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

From the study findings, gifted and talented learners in public primary schools exhibit achievement motivation characteristics which influence their academic achievement. The study revealed that gifted and talented learners set goals to improve their competencies. This indicates that the goals which the learners set immensely predict their academic achievement. This implies that gifted and talented learners who set academic goals and analyzes results for improvement register improved academic competencies in primary schools.

5.2 Recommendations

The study recommends that teachers and parents should create an appropriate learning environment for gifted pupils in public schools to create a positive self-concept to improve their academic achievement. Public school teacher in Nairobi Country should encourage gifted learners to self-regulate their learning environment to facilitate excellent academic achievement among gifted and talented learners. Finally, the Ministry of Education should provide resource centers where gifted and talented learners can nurture their competencies and formulate a policy for setting up centers of excellence for placement of learners who are gifted and talented, while Teachers' Service Commission should

undertake capacity building and retraining of teachers on how to handle learners with different forms of giftedness. The Kenya Institute of Curriculum Development should also provide curriculum guides to teachers on how to differentiate the content to meet the needs of learners who are gifted and talented.

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