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Influence of Teachers' Ability on Gifted and Talented Learners' Performance in Primary Schools in Kimilili Sub-County, Kenya

Jacqueline Moraa & Manson Sichari
Mount Kenya University
Corresponding author: Jacqueline Moraa

Abstract

The objective of the study was to establish the influence of teachers' ability on gifted and talented learners' performance in primary schools in Kimilili Sub-County, Kenya. The research was anchored on Dabrowski's Theory of Positive Disintegration. The study employed a descriptive survey design methodology. The Yamane formula was utilized to determine a sample size of 270 respondents from a total population of 1090 employees. The population consisted of at least four curriculum support officers, 30 head teachers, and 240 teachers who were employed by the Teachers Service Commission. The study utilized a combination of stratified sampling and basic random sampling techniques. The collection of primary data was facilitated through the utilization of questionnaires and interview schedules. The qualitative data underwent analysis using descriptive and inferential statistics, and the findings were afterwards presented through visual aids such as charts, tables, and graphs. On the other hand, the quantitative data was summarized and conveyed through a narrative format. The paper provides valuable insights for policy makers in the field of education, particularly in terms of accountability and academic achievement. Additionally, scholars may find the study to be a valuable resource for referencing in their academic endeavors. The study determined that several elements pertaining to teaching strategies had a favourable and significant effect on gifted and talented learners' performance. The study suggests that the sub-county should consider incorporating teaching strategies abilities, such as age, gender, health, and qualifications, as these factors have been found to positively impact gifted and talented learners' performance. The sub-county ought to adopt teaching abilities, such as class performance, academic achievement, teaching skills and teamwork school factors since they have been shown to enhance the gifted and talented learners' performance.

Keywords:

Gifted, performance, talented, ability.

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Background to the Study

In Kenya gifted and talented learners are subjected to inclusive setting. The term "inclusion" may refer to schools, classrooms, or even curricula. It is both a philosophical approach and an instructional method. When used to refer to classrooms, it typically means all students are learning in the same classroom setting-that is, heterogeneous grouping. Many people use the term to imply that all students will learn best in the same general education classroom and teachers was able to make learning equally meaningful for all students. Research does not support these assumptions.

Research indicates that the needs of students who are gifted can be met in the inclusive classroom under certain prerequisite conditions; for example, (1) the students are appropriately grouped in clusters or other homogeneous arrangement; (2) teachers match their instructional strategies to the specific learning needs of the students; (3) the students receive an appropriately differentiated curriculum or have access to the full range of curriculum. Access to the full range of curriculum may be achieved in many ways; for example, through distance education programs, acceleration, or specially designed programs like those sponsored by Johns Hopkins University or Stanford University.

It is not easy for teachers to provide a learning environment where each child is working at his or her level of challenge, particularly in an inclusive classroom. However, homogeneous or cluster grouping makes it easier for teachers to differentiate curriculum and use strategies such as curriculum compacting that have proven to be effective. Additional strategies for providing effective differentiated instruction are discussed in the literature included in this frequently asked question.

The state of studies on gifted and talented learners in Kenya cannot be easily be determined since it is an area of special education which has not received an outright consideration by scholars. Therefore, the inclusive setting may not be appropriately used by teachers in assisting gifted learners since majority of them have no training in special education and may lack appropriate skill to identify and place gifted learners in the right level of academics.

Literature Review

The concept of gifted and talented learners' education has been studied for many years. Gifted and talented education dates back thousands of years. Plato (c. 427–c. 347 BCE) advocated providing specialized education for intellectually gifted young men and women (Colangelo & Davis, 1997). In China's Tang Dynasty (580-618 CE), child prodigies were summoned to the imperial court for specialized education. Throughout the Renaissance, those who exhibited creative talent in art, architecture, and literature were supported by both the government and private patronage (Colangelo & Davis, 1997).

Gifted education (also known as Gifted and Talented Education (GATE), Talented and Gifted (TAG), or G/T) is a broad term for special practices, procedures, and theories used in the education of children who have been identified as gifted or talented. There is no standard global definition of what a gifted student is. Multiple definitions of giftedness are used by different groups. Most of these definitions select the students who are the most skilled or talented in a given area, for example, the students with the most skill or talent in music, language, logical reasoning, or mathematics. The percentage of students selected varies, generally with 10% or fewer being selected for gifted education programs. However, since students vary in their aptitudes and achievements, a student who is not gifted in one area, such as music, may be considered gifted in another, such as language.

Consequently, even if all programs agreed to include only the top 5% of students in their area, more than just 5% of students would be identified as gifted.

One of the earliest Western studies of human abilities was conducted by Sir Francis Galton, who between 1888 and 1894 developed and compiled measurements of over 7,500 individuals to gauge their natural intellectual abilities. In his studies he determined that if a parent deviates from the norm, so will the child, but to a lesser extent, one of the earliest observed examples of regression toward the mean (Francis, 2001). Galton believed that individuals could be improved through interventions in heredity, a movement he named eugenics. He categorized people into gifted, capable, average, or degenerate and recommended breeding between the first two categories, and forced abstinence for the latter two. His term for the most intelligent and talented people was "eminent," and after studying England's most prominent families, concluded that one's eminence was directly related to his direct hereditary line (Francis, 2000).

At Stanford University in 1918, Lewis Terman introduced intelligence quotient (IQ) scoring for the test. According to Terman, the IQ was one's mental age compared to one's chronological age, based on the mental age norms he compiled after studying a sample of children (Lewis, 1998a). He defined intelligence as "the ability to carry on abstract thinking"(Lewis, 1998b). During World War I Terman was a commissioned officer of the United States Army, and collaborated with other psychologists in developing intelligence tests for new recruits to the armed forces. For the first time, intelligence testing was given to a wide population of drafted soldiers.

After the war, Terman undertook an extensive longitudinal study of 643 children in California who scored at IQ 140 or above, the Genetic Studies of Genius, continuing to evaluate them throughout their lives. Subjects of these case studies were called "Termites" and the studies contacted the children in 1921, and again in 1930, 1947, and 1959 after his death. Terman's studies have to date been the most extensive on high-functioning children, and are still quoted in psychological literature today. Terman claimed to have disproven common misconceptions, such as that highly intelligent children were prone to ill physical and mental health, that their intelligence burned out early in their lives, or that they either achieved greatly or underachieved (Lewis, 1980).

The term "Gifted Assessment" is typically applied to a process of using norm-referenced psychometric tests administered by a qualified psychologist or psychometric with the goal of identifying children whose intellectual functioning is significantly advanced as compared to the appropriate reference group (i.e., individuals of their age, gender, and country). The cut-off score for differentiating this group is usually determined by district school boards and can differ slightly from area to area; however, the majority defines this group as students scoring in the top 2 percentiles on one of the accepted tests of intellectual (cognitive) functioning or IQ. Some school boards also require a child to demonstrate advanced academic standing on individualized achievement tests and/ or through their classroom performance. Identifying gifted children is often difficult but is very important because typical school teachers are not qualified to educate a gifted student. This can lead to a situation where a gifted child is bored, underachieves and misbehaves in class (Gross, 1999 and Kranzler & Floyd, 2011).

Individual IQ testing is usually the optimal method to identify giftedness among children. However it does not distinguish well among those found to be gifted. Therefore, examiners prefer using a variety of tests to first identify giftedness and then further differentiate. This is often done by using individual

IQ tests and then group or individual achievement tests. There is no standard consensus on which tests to use, as each test is better suited for a certain role (Gross, 1999 and Kranzler & Floyd, 2011).

The two most popular tests for identifying giftedness in the school-age population are the WISC IV and the SB5. The WIAT III is considered the most popular gifted and talented learners' performance test to determine a child's aggregate learned knowledge (Flanagan & Harrison 2012).

Although a newer WISC version, the WISC V, was developed in late 2014, the WISC IV is still the most commonplace test. It has been translated into several languages including Spanish, Portuguese, Norwegian, Swedish, French, German, Dutch, Japanese, Chinese, Korean, and Italian. The WISC-IV assesses a child's cognitive abilities, with respect to age group. Coupled with results from other tests, the WISC accurately depicts a child's developmental and psychological needs for the future (Flanagan & Harrison 2012).

The SB5 is an intelligence test that determines cognitive abilities and can be administered to persons in virtually any age group. It assesses a series of intelligence indicators including fluid reasoning, general knowledge, quantitative reasoning, spatial processing, and working memory. The SB5 makes use of both verbal and nonverbal testing (Waddell, 2014).

The WIAT-III cannot assess all components of learned knowledge, but does give an understanding of a child's ability to acquire skills and knowledge through formal education. This test measures aspects of the learning process that take place in a traditional school setting in reading, writing, math, and oral language. Although the WIAT-III tests a wide range of material, it is designed primarily to assess children's learning before adolescence (Flanagan & Harrison 2012).

Versions of these tests exist for each age group. However it is recommended to begin assessment as early as possible, with approximately eight years of age being the optimal time to test. Testing allows identification of specific needs of students and help to plan an education early (Gross, 1999).

Out-of-group achievement testing (such as taking the SAT or ACT early) can also help to identify these students early on and is implemented by various talent search programs in use by education programs. Out-of-group testing can also help to differentiate children who have scored in the highest percentiles in a single IQ test (Gross, 1999)

Testing alone cannot accurately identify every gifted child. Teacher and parent nominations are essential additions to the objective information provided by grades and scores. Parents are encouraged to keep portfolios of their children's work, and documentation of their early signs of gifted behaviour (www.aaegt.net.au. Retrieved 2016-09-10, Natcharian, 2015).

Methodology

The research was anchored on Dabrowski's Theory of Positive Disintegration. The study employed a descriptive survey design methodology. The Yamane formula was utilized to determine a sample size of 270 respondents from a total population of 1090 employees. The population consisted of at least four curriculum support officers, 30 head teachers, and 240 teachers who were employed by the Teachers Service Commission. The study utilized a combination of stratified sampling and basic random sampling techniques. The collection of primary data was facilitated through the utilization of questionnaires and interview schedules. The qualitative data underwent analysis using descriptive and

inferential statistics, and the findings were afterwards presented through visual aids such as charts, tables, and graphs. On the other hand, the quantitative data was summarized and conveyed through a narrative format.

Results of the Study

The study sought to establish the influence of teachers' ability on gifted and talented learners' performance in primary schools in Kimilili Sub-County. The findings were as summarized in Table 1.

Table 1: Teachers' Ability on Gifted and Talented Learners' Performance

Statements	Frequency	Percent	Mean	Std. Deviation
Technical skills impart knowledge to gifted students hence affecting gifted and talented Learners' Performance	188	70	4.123	.977
Individualized achievement tests improve gifted and talented Learners' Performance.	190	71	4.321	.749
Teamwork among gifted students improves gifted and talented Learners' Performance.	206	77	4.112	1.098
Child development as a result of good working memory improves gifted and talented Learners' Performance.	225	84	4.422	1.196

The results in Table 1 show that the respondent agree (mean 4.00) that technical skills impart knowledge to gifted students hence affecting gifted and talented learners' performance, individualized achievement tests improve gifted and talented learners' performance, teamwork among gifted students improves gifted and talented learners' performance and child development as a result of good working memory improves gifted and talented learners' performance.*T*able 2 shows correlation between teachers' ability on gifted and talented learners' performance variables.

Table 2: **Correlation between Teachers' Ability on Gifted and Talented Learners' Performance Variables**

Correlation		Gifted and Talented Learners' Performance			
		Working Independently	Fact Presentation	Revision and Recursion	project-based learning
Teachers' Ability					
Technical Skills	Pearson Correlation	.342**	.304**	.311**	.345**
	Sig. (2-tailed)	.004	.005	.004	.032
	N	258	258	258	258
Individualized	Pearson Correlation	.452**	.365**	.412**	.342**

Achievement Tests	Sig. (2-tailed)	.005	.043	.032	.023
	N	258	258	258	258
Teamwork	Pearson Correlation	.422**	.335**	.411**	.322**
	Sig. (2-tailed)	.004	.051	.023	.032
	N	258	258	258	258
Child Development/ Working Memory	Pearson Correlation	.432**	.315**	.311**	.332**
	Sig. (2-tailed)	.024	.052	.024	.022
	N	258	258	258	258

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

The analysis results in Table 9 above show that Technical Skills positively and significantly influence Working Independently, Fact Presentation, Revision and Recursion and project-based learning at (r=.342**,p<.05), (r= .304**,p<.05), (r= .311**,p<.05) and (r= .345**,p<.05) respectively.

The analysis results show that Individualized achievement tests positively and significantly influence Working Independently, Fact Presentation, Revision and Recursion and project-based learning at (r= .452**,p<.05), (r= .365**,p<.05), (r= .412**,p<.05) and (r= .342**,p<.05) respectively.

The analysis results above show that teamwork positively and significantly influence working independently, fact presentation, revision and recursion and project-based learning at (r= .422**,p<.05), (r= .335**,p<.05), (r= .411**,p<.05) and (r= .322**,p<.05) respectively.

The analysis results above show that child development/ working memory positively and significantly influence working independently, fact presentation, revision and recursion and project-based learning at (r= .432**,p<.05), (r= .315**,p<.05), (r= .311**,p<.05) and (r= .332**,p<.05) respectively.

Table 3 shows correlation between Teachers' Ability on Gifted and Talented Learners' Performance factor.

Table 3: **Correlation between Teachers' Ability On Gifted And Talented Learners' Performance Factor**

Correlation		**Gifted and Talented Learners' Performance**
Teachers' Ability	Pearson Correlation	.453**
	Sig. (2-tailed)	.043
	N	258

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

The analysis results in table 10 above reveals that teachers' ability positively and significantly influence gifted and talented learners' performance at r= .453**, p<05. The coefficient of determinant

R =0.205 implying that teachers' ability contributes 20.5% variability to gifted and talented learners' performance when other factors are held constant.

Conclusion

The analysis results revealed that teachers' ability positively and significantly influence gifted and talented learners' performance at r= .453**, p<05. The coefficient of determinant R =0.205 implying that teachers' ability contributes 20.5% variability to gifted and talented learners' performance when other factors are held constant.

These findings agree with various studies and view of a lot of scholars. According to Natcharian, (2015), testing alone cannot accurately identify every gifted child. Teacher and parent nominations are essential additions to the objective information provided by grades and scores. Parents are encouraged to keep portfolios of their children's work, and documentation of their early signs of gifted behaviour. Individual IQ testing is usually the optimal method to identify giftedness among children. However it does not distinguish well among those found to be gifted. Therefore, examiners prefer using a variety of tests to first identify giftedness and then further differentiate. This is often done by using individual IQ tests and then group or individual achievement tests. There is no standard consensus on which tests to use, as each test is better suited for a certain role (Gross, 1999; Kranzler & Floyd, 2011).

Gross, (2010) argue that versions of these tests exist for each age group. However it is recommended to begin assessment as early as possible, with approximately eight years of age being the optimal time to test. Testing allows identification of specific needs of students and help to plan an education early. Out-of-group achievement testing (such as taking the SAT or ACT early) can also help to identify these students early on and is implemented by various talent search programs in use by education programs. Out-of-group testing can also help to differentiate children who have scored in the highest percentiles in a single IQ test.

Recommendations

The study makes following recommendations:

i. On the fact that the study established varied differences in influence of teachers' abilities on gifted and talented learners' performance in public primary schools in Kimilili Sub-County, the study recommends investment in teaching abilities that would serve to improve gifted and talented learners' performance. Guided by the conclusion made underlining the value of teaching abilities, the study recommends pursuit of factors such as class performance, academic achievement, teaching skills and teamwork in order to enhance gifted and talented learners' performance.
ii. Guided by findings and conclusions on approaches of gifted education,the study recommends an enhanced democratic hobby, enrichment, compacting and self-spacing that would enhance gifted and talented learners' performance.
iii. Finally, the study discovered challenges such as emotional aspects, self-efficacy, biological differences, mental disorder.Thiswas informed by the conclusions made underlining the challenges of gifted education and when managed well, it would lead to enhancinggifted and talented learners' performance.

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