

# INFLUENCE OF TEACHERS' INNOVATION AND CREATIVITY ON STUDENTS' OUTCOMES IN PUBLIC SECONDARY SCHOOLS IN HAMISI SUB- COUNTY, KENYA

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## Abstract

The purpose of this study was to investigate the influence of teachers' innovation and creativity on students' outcomes in public secondary schools in Hamisi Sub- County, Kenya . This study encompassed a total of 8,662 participants, including 52 principals, 511 teachers employed by the Teachers Service Commission (TSC), 8,095 Form Four students, and 4 curriculum support officers, all representing the target population. To obtain the sample size, a simple random and stratified sampling technique was applied, guided by the Krejcie and Morgan table (1970), resulting in a sample of 368 respondents, consisting of 22 principals, 22 teachers, and 340 students. The selection of the 4 curriculum support officers was done purposefully to ensure their participation in the study. This study was grounded in Bandura's social learning theory. The secondary schools and participants involved in the pilot study were not part of the primary investigation; their role was solely to enhance and refine the data collection instruments. Data analysis was carried out using descriptive statistics, including frequencies and percentages, as well as inferential statistics. The study findings were presented using tables, graphs, and charts. The findings emphasized the significant impact of teachers' perceptions and attitudes on the academic outcomes of students in the Hamisi Sub-County, Kenya. Teachers who prioritized students' success, positively contributed to academic achievement, and demonstrated a commitment to improving outcomes contributed to a favourable learning environment. Effective time management practices, encompassing thorough curriculum coverage and prudent allocation of teaching time, significantly influenced students' educational experiences. Additionally, the study highlighted the pivotal role of teachers' innovation and creativity, emphasizing engaging teaching methods, encouragement of creative thinking, and adaptable approaches. Furthermore, academic clinics, providing academic support beyond regular hours, positively impacted academic consultations and enhanced student behaviour. In conclusion, teachers in Hamisi Sub-County, Kenya, exerted substantial influence on students' academic performance and experiences, driven by their attitudes, time management, innovation, and academic support. Recommendations include comprehensive teacher training, emphasis on positive attitudes and effective time management, fostering innovation in teaching, establishing monitoring and evaluation systems, curriculum enhancements for creativity, and promoting parent-teacher engagement through workshops, all aimed at improving student outcomes and fostering a dynamic learning environment.

**Keywords:** Teachers' innovation and creativity, students' outcomes, public secondary schools

## INTRODUCTION

Creativity, defined by Ogunsanya and Akintunde (2015), refers to the ability to generate novel concepts, techniques, artefacts, or artistic expressions. In contrast, innovation is the iterative process of creating viable and commercially viable products, services, and business frameworks through imaginative concepts. Creativity involves generating original ideas, solutions, or activities, while innovation is often characterized by the introduction of novel elements or procedures (Brewer and Tierney, 2015). According to Serdyukov (2017), innovation can be broken down into three fundamental stages: idea conceptualization, execution, and the resulting transformative outcomes. Educational innovations encompass various pedagogical theories, teaching strategies, curriculum designs, and institutional frameworks. When integrated effectively, these innovations contribute to improvements in teaching and learning, ultimately enhancing students' academic achievement (US Department of Education, 2014).

A study conducted by Yu-Je (2018) in Taiwan's vocational and technical colleges found that pedagogical innovation positively influences student satisfaction and academic advancement. It further revealed a correlation between academic achievement and satisfaction with the learning process. Narayanan (2017) investigated the relationship between academic performance in for-profit higher education institutions and the utilization of innovative teaching and learning methodologies. The study discovered that novel pedagogical methods enhance students' understanding of subject matter and stimulate their enthusiasm for learning. Chiedozie, Ezeugbor, and Okoye (2019) explored classroom management strategies and the inclination towards creativity and innovation among secondary school teachers in Anambra State. The study indicated that educators express a desire to incorporate inventive methodologies to enhance classroom instruction and align with technological advancements. Recommendations were made to improve teacher awareness and the significance of classroom management in implementing creative teaching methods. The previous studies were carried out in diverse geographic locations, and some of the variables they examined differed from the ones in this study. As a result, there are gaps in terms of concepts, context, and methodology in these earlier investigations.

In the existing body of research, there is a notable gap concerning the specific focus of this study, which explores the impact of teacher performance evaluation on students' academic outcomes in public secondary schools in the Hamisi sub-county of Kenya. While prior studies have delved into related topics, such as teacher evaluations and academic achievement, they often exhibit significant conceptual, contextual, and analytical distinctions. For example, Kadenyi (2015) employed a different research methodology, variable selection, and sample size in her study, which did not specifically address the precise relationship examined in this study. Similarly, studies conducted in various geographical and contextual settings (e.g., Namfukwe, 2016; Nuwagaba, 2015; Kyalumbye, 2013) may not directly align with the current research focus. Additionally, previous empirical research (Rop, Bett and Kimutai, 2013; Kongere, 2011; Allube, 2015) conducted in Kenya took place before the Teachers Service Commission initiated comprehensive performance evaluations for Kenyan teachers. This research gap highlights the need for a dedicated investigation into the specific impact of teacher performance evaluations on students' academic outcomes in the Hamisi sub-county of Kenya. By addressing this gap, the study aimed to provide valuable insights into the unique dynamics and implications of teacher evaluations in this specific context, contributing to a more comprehensive understanding of their effects on student achievement.

## Methodology

This section presents an outline of the research methodology, encompassing the research design, study population, study location, target population, sample size, and sampling approaches. It also discusses data collection methods, tools for data processing and interpretation, pre-testing, data collection techniques, the validity and reliability of research instruments, procedures for data collection and analysis, and ethical considerations.

This study employed a descriptive research approach, in accordance with Creswell's (2014) definition, which is a research method primarily concerned with offering a comprehensive and detailed portrayal of a phenomenon or a specific group of individuals. The principal objective of a descriptive research design is to provide a depiction of the current state of affairs. A key characteristic of this approach is that the researcher does not exert influence over the variables; their role is to report on what has transpired or is currently happening (Kothari, 2011).

In this study, the researcher aimed to identify and present findings regarding the impact of teacher performance appraisal on the academic achievements of students in public secondary schools in Hamisi Sub-County, Kenya. This research design was selected for its capacity to yield a substantial amount of information from a broad sample of individuals, with the data collected being of a descriptive nature. As Creswell (2002) suggests, a descriptive research design is employed when data is gathered to depict individuals, organizations, settings, or phenomena. The study sought to provide an account of how teacher performance appraisal influences the academic outcomes of students in public secondary schools within Hamisi Sub-County. Consequently, a descriptive research design was deemed the most suitable approach for this investigation.

The research was conducted in Hamisi Sub-County, Vihiga County, Kenya, with a population of 160,000 people (KNBS, 2019). The principal economic activities include small-scale mining, commerce, and subsistence farming, and a significant portion of the population is employed in government due to the numerous educational institutions in the area, including 115 public primary schools, 52 secondary schools, 1 university college, 1 technical training institution, and 1 teacher training college. The choice of this location was driven by its diverse economic activities, high concentration of educational institutions, and a government employment sector, making it an ideal setting to study the influence of teacher performance assessment on academic performance.

As per Kothari (2007), a research population refers to a substantial assembly of individuals or entities sharing common characteristics and of significant interest to the researcher. Kothari's work further underscores that the research population effectively represents the entire pool of individuals or organizations from whom data is sought. According to the Hamisi Sub-County Education Office(2019) there are 4 Curriculum Support Officers (CSOs), 22 school principals, 511 TSC teachers, and 8,095 form 4 students. Therefore, the total target population for this research comprised a total of 8,632 individuals. Data collection exclusively focused on public secondary schools, as private schools typically employ their own internal assessment systems, diverging from the performance evaluation guidelines established by the Ministry of Education and the Teachers Service Commission. In accordance with this demographic delineation, the 22 public secondary schools were categorized into four distinct groups: boys' schools, girls' schools: mixed day and boarding schools, and mixed day schools.

**Table 1:** Target Population

Category	Target Population
CSOs	4
Principals	22
Teachers	511
Form four students	8095
Total	8,632

**Source:** Hamisi Sub-County Education Office (2022)

Kombo and Tromp (2006) define sampling methodology as a systematic process for selecting a subset of individuals from a larger population, with the primary aim of ensuring that the sample accurately represents the overall population, enabling broader generalizability of the study's findings. For this study, the sample size was determined using the Krejcie and Morgan (1970) technique, resulting in a sample size of 22 teachers and 340 Form four students. The 4 curriculum support officers (CSOs) and 22 principals were purposefully selected due to their access to relevant information, such as government circulars and policy documents guiding teacher appraisals and assessment.

Stratified random sampling was employed with each stratum representing a different category in selection of the schools for this study. The final sample comprised 368 respondents, including 4 CSOs, 22 principals, 20 teachers and 322 students as shown in table 2 below.

**Table 2:** Sample size

Category	Target Population	Sample Size
CSOs	4	4
Principals	22	22
Teachers	511	20
Form four students	8095	322
Total	8,632	368

The primary data for this study was collected using questionnaires, which were considered an effective method for gathering the perspectives of multiple individuals on a specific issue, as suggested by Cohen (1988). The purpose of the questionnaires was to gain insight into how teacher performance reports influenced the academic outcomes of students in secondary schools in Hamisi Sub County. These questionnaires were structured to include sections for collecting personal information, such as gender, age, educational background, and positions held by the respondents. Additionally, open-ended questions were included to encourage respondents to share their thoughts, opinions, and ideas in the provided space. The choice of questionnaires as the data collection method was based on their efficiency in reaching a large number of participants and their ability to prompt personal responses from these participants, in line with Kothari (2011). Three different questionnaires were developed, each targeting a specific group: teachers, form four students, and administrators. However, for the CSOs, a personal interview schedule was used to collect data. Interviews were conducted when more in-depth explanations were necessary to complement the survey findings. To ensure the thoroughness of the data collection process, two research assistants were employed. After each interview, a review of the responses was conducted to confirm that all questions had been adequately addressed, thus minimizing the need for further follow-up. The use of interviews offered the advantage of gathering specific information from respondents that might not have been captured by the questionnaires, as suggested by Kothari (2011)

Following the receipt of an introductory letter from Mount Kenya University, a research permission request was submitted to the National Commission for Science, Technology, and Innovation (NACOSTI). Using the granted permit, further approvals were sought from the County Director of Education, County Commissioner, County government, and secondary schools within the study area. To establish rapport with the intended participants, the researcher initially visited educational institutions in Hamisi Sub County, including both schools and administrative offices. During these visits, the researcher communicated the research objectives to the respondents and scheduled appointments for data collection. Using the aforementioned data collection tools, information was gathered from the respondents.

Data analysis was conducted using the Statistical Package for Social Sciences (SPSS), which allowed for the examination of quantitative data through descriptive statistics. The software facilitated various descriptive statistical analyses, such as frequency counts, percentages, standard deviations, and means. The results were presented in the form of tables and graphs

to address the primary research questions. Descriptive statistics were chosen for their capacity to support generalizations (Cohen, 2014).

**Results**

The study sought to determine teachers’ innovation and creativity on students’ outcomes in public secondary schools in Hamisi Sub- County, Kenya. The study found out that a mean of 2.5510 with a standard deviation of 1.45176 of the respondents revealed that

Teachers use teaching methods that engage students , a mean of 2.7420 with a standard deviation of 1.59683 of the respondents suggested that Teachers encourage creative thinking among students, a mean of 2.5605 with a standard deviation of 1.41799 of the respondents suggested that Teachers adapt teaching approaches to meet needs of students, the study also showed that a mean of 3.4140 with a standard deviation of 1.43014 of the respondents revealed that use of innovative teaching methods enhance teachers preparedness, a mean of 4.0701 with a standard deviation of 1.16999 of the respondents suggested that They think teaching impacts teachers effectiveness while a mean of 3.9236 reflecting a standard deviation of 1.16686 of the respondents revealed that integration of ICT tools enhance students learning. Majority of the respondents suggested that they think teaching impacts teachers’ effectiveness in the study carried out to establish teachers’ innovation and creativity on students’ outcomes in public secondary schools in Hamisi Sub-County, Kenya.

**Table 3: Teacher’s innovation and creativity on students’ academic outcomes**

	N	Minimum	Maximum	Mean	Std. Deviation
Teachers use teaching methods that engage students	314	1.00	5.00	2.5510	1.45176
Teachers encourage creative thinking among students	314	1.00	5.00	2.7420	1.59683
Teachers adapt creative teaching approaches to meet needs of students	314	1.00	5.00	2.5605	1.41799
do innovative teaching methods enhance teachers’ preparedness	314	1.00	5.00	3.4140	1.43014
Do you think creative teaching approaches impacts teachers’ effectiveness	314	2.00	5.00	4.0701	1.16999
Does the integration of ICT tools enhance students learning	314	2.00	5.00	3.9236	1.16686
Valid N (listwise)	314				

Source: Field data,2023

The study under presents a comprehensive correlation analysis among various dimensions of teachers' professional attributes. Notably, it explores the relationships between teachers' perceptions and attitudes, their time management skills, their capacity for innovation and creativity, and their participation in academic clinics. The findings are based on a sample size of 314 teachers, and the correlations are assessed using Pearson Correlation coefficients. The results indicate consistently strong positive correlations between these dimensions, with correlation coefficients ranging from 0.831 to 1. These findings are statistically significant, as evidenced by the low p-values (all < 0.001), reinforcing the importance of teachers' perceptions and attitudes in influencing their time management, innovative capabilities, and engagement in academic clinics within the educational context.

**Table 4: Correlations**

		Teachers’ innovation and creativity	Academic outcomes
Teachers’ innovation and creativity	Pearson Correlation	1	.0831
	Sig. (2-tailed)		
Academic outcomes	N	314	314
	Pearson Correlation	.0831	1
	Sig. (2-tailed)		
	N	314	314

Source: SPSS Output,2023

The reliability statistics provided in this study internal consistency of a measurement scale consisting of four items. Cronbach's Alpha, a commonly used measure of internal reliability, yields a value of .964 for the scale. This high value suggests a strong level of internal consistency among the items, indicating that they are measuring a similar underlying construct reliably. Additionally, the Cronbach's Alpha based on standardized items is .965, further reinforcing the scale's reliability. With a total of four items, this scale appears to be a robust and consistent measure of the construct it intends to assess, as evidenced by the high Cronbach's Alpha values.

**Table 5: Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.964	.965	4

Source: SPSS Output,2023

Table 5 provided a concise overview of the distribution and characteristics of a set of items. The mean score of approximately 19.917 indicates the central tendency of respondents' ratings, with most items falling around this average. The minimum score of 19.261 represents the lowest recorded rating, while the maximum score of 20.557 signifies the highest, resulting in a range of approximately 1.296, showcasing the variability in responses across the items. The ratio of maximum to minimum scores (about 1.067) highlights the relative consistency of ratings, while the variance of .375 suggests some degree of dispersion from the mean. This table aids in understanding the distribution and tendencies within the dataset, offering insights into how respondents perceive and rate the items under consideration.

**Table 2: Summary Item Statistics**

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	19.917	19.261	20.557	1.296	1.067	.375

Source: SPSS Output,2023

The study under consideration aimed to meticulously assess the influence of teachers' innovation and creativity on students' academic outcomes within the specific context of public secondary schools in Hamisi Sub-County, Kenya. This research endeavour sought to shed light on the multifaceted dimensions of educators' innovative practices and their creative approaches in the realm of education. The findings of this comprehensive study have unearthed a treasure trove of insights into how educators' inventive methodologies impact the scholastic journey of their students.

The study brought to the forefront the observation that teachers exhibit a proclivity towards utilizing teaching methods that actively engage students (mean = 2.5510, standard deviation = 1.45176). This revelation underscores the educators' dedication to fostering dynamic, interactive, and participatory pedagogical techniques. It signifies their commitment to creating a vibrant learning environment where students are not passive recipients of knowledge but active participants in their own educational voyage.

The research findings indicate that teachers play a pivotal role in stimulating creative thinking among their students (mean = 2.7420, standard deviation = 1.59683). This manifestation of their commitment to nurturing innovation implies that educators are not only transmitters of established knowledge but also catalysts for original thought and inventive problem-solving. It reinforces the notion that creativity can be cultivated and encouraged within the classroom setting, with educators serving as the catalysts for this creative spark.

The study reveals that teachers demonstrate a commendable degree of adaptability by tailoring their teaching approaches to meet the unique needs of their students (mean = 2.5605, standard deviation = 1.41799). This adaptability underscores the educators' recognition that each student possesses distinct learning preferences, strengths, and challenges. Their willingness to accommodate these differences speaks to the importance of personalized instruction and the acknowledgment that a one-size-fits-all approach may not be conducive to optimal learning outcomes.

The research findings illuminate that innovative teaching methods have a positive impact on teachers' preparedness (mean = 3.4140, standard deviation = 1.43014). This underscores the symbiotic relationship between innovative teaching practices and educators' own professional development. It implies that educators who embrace innovative pedagogical approaches tend to be more prepared and equipped to navigate the dynamic landscape of education effectively. Additionally, respondents' beliefs that teaching significantly influences teachers' effectiveness (mean = 4.0701, standard deviation = 1.16999) highlight the integral role played by creativity and innovation in instructional practices. This aligns with the notion that innovative and creative teaching methods contribute to enhanced teaching outcomes and, consequently, greater teacher effectiveness. It emphasizes the interconnectedness of pedagogy and teacher effectiveness, with the former serving as a critical determinant of the latter.

The integration of information and communication technology (ICT) tools is recognized as a catalyst for enhancing students' learning experiences (mean = 3.9236, standard deviation = 1.16686). This recognition underscores the pivotal role of technology in modern education and its potential to augment innovative teaching practices. It aligns with the broader trends in educational technology adoption, emphasizing the transformative impact of digital tools on the learning process.

In corroboration with these findings, it is instructive to turn to existing literature for a more comprehensive perspective on the themes of creativity, innovation, and their implications for education. Ogunsanya and Akintunde (2015) provide insightful definitions of creativity and innovation, emphasizing their relevance across various domains, including education. They underscore that creativity involves the generation of novel ideas and solutions, while innovation entails the practical application of these creative ideas to create value. This delineation highlights the multifaceted nature of these



concepts and their applicability within the educational context. The U.S. Department of Education (2014) emphasizes the widespread influence of educational innovation, noting its impact on the structure and operation of educational institutions. This influence is observed in initiatives such as charter schools and systemic accountability measures, which signify substantial shifts in educational paradigms. This aligns with the study's focus on the innovative practices of teachers and their potential to reshape the educational landscape.

Tulbure (2015) underscores the importance of adaptability, creativity, and responsiveness in effective teaching. The recognition that students' learning styles and preferences vary necessitates educators' flexibility and awareness of diverse learning needs. This resonates with the study's findings regarding teachers' adaptability in meeting students' specific requirements. In Taiwan's vocational and technology colleges (TVC), Yu-Je (2018) delves into the intricate relationship between educational innovation, student satisfaction, and learning outcomes. This research reveals the significant positive impact of pedagogical innovation on both learner satisfaction and academic achievement. The interconnectedness of these factors highlights the far-reaching consequences of innovative teaching practices on the educational experience.

### Conclusions

The study found that teachers' innovation and creativity are crucial factors in enriching students' educational journeys. Engaging teaching methods, the encouragement of creative thinking among students, and the adaptation of teaching approaches to meet the unique needs of students were all identified as essential components of effective teaching and learning.

In addressing the findings related to teachers' innovation and creativity, the study recommends Innovative Teaching Workshops. These workshops should focus on providing teachers with tools and strategies for creative pedagogy. Establishing Peer Learning Communities within schools is also recommended, fostering an environment where educators can share innovative practices and collaborate on implementing creative teaching strategies.

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