Effect of Teaching Strategies on Academic Performance of Learners with Special Needs in All Public Primary Schools in Emuhaya Sub-County, Vihiga County, Kenya

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ABSTRACT

Learners having special needs encounter diverse trials in their schooling, which considerably manipulate their approach, and wide-ranging contribution in educational set of courses. The purpose of this research study was to the effect of teaching strategies on academic performance of learners with special needs in all public primary school in Emuhaya Sub-County, Vihiga County, Kenya. This study embraced Albert Bandura's Social Cognitive Theory, which underscores on the substance of self-assurance as an important constituent within an individual's character. It as well emphasizes that schooling programs can be planned to offer appropriate knowledge for all learners building on their exceptional wants. The study utilized a descriptive survey design. The target population included 159 head teachers of public primary schools, 798 teachers, and 1,003 learners with special needs, totaling 1,960 individuals. Krejcie and Morgan's table was employed to get a sample size of 322 respondents who were selected using stratified and Simple random sampling techniques. The study utilized interview schedules for head teachers, questionnaires for teachers and learners as well as observation checklists for data collection. Quantitative data was analyzed by means of Statistical Package for Social Sciences (SPSS) while qualitative data was analyzed thematically from the interview schedules and observation checklists and was stated in narrative forms. Quantitative data was presented in form of frequency tables, percentages, bar graphs and pie charts. The study established that teaching strategies positively and significantly influenced academic performance of learners with special needs in public primary schools. The study recommended that school teachers should modify their instruction approaches and come up with a policy that learners with disabilities are able to gain access to government scholarships.

Keywords: *Academic Performance, Classroom Organization, Discussion Engagement, Instructional Methods, Supplementary Notes Provision*

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I. INTRODUCTION

Ensuring academic success for learners with special needs in public primary schools through personalized plans, inclusive environments, and support services enhances holistic growth, social integration, and equitable educational opportunities for all students (Alnahdi et al., 2024). Despite progress, persistent educational challenges, particularly concerning teacher strategies, continue to affect developing countrie (Chisom et al., 2023). This suggests that academic improved performance can enhance overall student well-being, but challenges in teacher strategies persist, especially in developing countries.

Academic performance of learners with special needs refers to their achievements and progress in educational outcomes relative to their individualized learning goals and standards (Römhild & Hollederer, 2024). Its significance lies in ensuring equitable access to quality education that support the educational success and future opportunities of learners with special needs in all public primary schools (Francisco et al., 2020). Consequently, teaching strategies for learners with special needs include instructional adaptations, individualized learning plans, inclusive classroom environments, and collaborative approaches involving educators and support staff (Wanti et al., 2023). This indicated that focusing on teaching strategies and academic performance is crucial for ensuring equitable education and inclusive environments for learners with special needs in public primary schools.

In America, the twentieth century saw a transformation in how children with disabilities were treated, shifting from exploitation to inclusive education. The passage of the Education for All Handicapped Children Act (EHA) in 1975 and the Individuals with Disabilities Education Act (IDEA) mandated public schools to provide special education, ensuring rights to education and individualized support through IEPs, with active parental involvement and ample instructional resources (Mitchell & Sutherland, 2020). Innovations in Czech Republic have risen extremely because of the production of well-rounded individuals that are influencing the growth of the economy. Instructors in Czech employs teaching strategies in the classroom anchored on real knowledge as well as comprehending on subject matters (Schwarcz et al., 2021). This infers that legislative acts have transformed the educational landscape for

children with disabilities in America, promoting inclusive education with parental involvement and ensuring access to tailored support and resources.

In South Africa, changes in education systems reflect societal interactions and evolving work conditions, driven by historical innovations crucial for societal survival and progress, particularly through technological advancements and industrial revolutions during apartheid in South Africa, learners with disabilities faced high exclusion rates, receiving segregated education by race and ability. Despite implementing special education guidelines, challenges persist due to inadequate understanding and skills in adapting to diverse learning needs, hindering effective curriculum modification and inclusive education progress (Materechera, 2020). This suggest that South Africa's education system evolution reflects societal and industrial advancements, yet challenges persist in effectively adapting to diverse learning needs and promoting inclusive education.

In Kenya, Educational frameworks mandate schools to adopt, design and implement strategies that support inclusive education. Despite the inclusive education policy, disability remains a major course of exclusion in learning institutions (Ireri et al 2020). In Emuhaya Sub-County, Vihiga County, Kenya, concerns about unequal access to quality education persist, directly linked to the effectiveness of teaching strategies (Indangasi et al., 2023). This implies that despite Kenya's inclusive education policies, addressing disability-related exclusion in schools remains critical, particularly in regions like Emuhaya Sub-County, Vihiga County, where disparities in educational access highlight the importance of effective teaching strategies. Therefore, study investigated the effect of teaching strategies on the academic performance of learners with special needs in all public primary schools in Emuhaya Sub-County, Vihiga County, Kenya.

1.1 Statement of the problem

The significance of academic performance for learners with special needs is ensuring equitable access to quality education, attributed to teaching strategies (Francisco et al. 2020). Globally and in Emuhaya Sub-County, Vihiga County, Kenya, there is concern as learners with special needs encounter significant educational challenges that affect their engagement and participation, underscoring the importance of effective teaching strategies (Indangasi et al. 2023).

Despite global governmental efforts to enhance the performance of learners with special needs, persistent challenges remain, including reliance on secondary data in empirical studies. To fill these gaps, this study collected primary data to examine the effect of teaching strategies on the academic performance of learners with special needs in all public primary schools in Emuhaya Sub-County, Vihiga County, Kenya.

1.2 Research Objectives

The objective of the study was to investigate the effect of teaching strategies on academic performance of learners with special needs in all public primary schools in Emuhaya Sub-County, Vihiga County, Kenya.

1.3 Research Hypothesis

H_{01}: There is no significant effect of teaching strategies on academic performance of learners with special needs in all public primary schools in Emuhaya Sub-County, Vihiga county, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Review

The study was based on Social Cognitive Theory, proposed by Albert Bandura in 1986 (Bandura, 1986). This theory emphasizes self-confidence as a fundamental element influencing an individual's actions and motivation. Social Cognitive Theory assumes that learning occurs through the interaction of behavioral, cognitive, and environmental influences, with individuals acquiring knowledge and skills by observing others within a social context (Schunk & DiBenedetto, 2020). Social Cognitive Theory is relevant to studying teaching strategies on the academic performance of learners with special needs in public primary schools as it emphasizes the role of observational learning, self-efficacy, and the social environment in shaping student behavior and learning outcomes. Criticism of Social Cognitive Theory is that it may overemphasize the role of observational learning while underestimating the influence of biological and genetic factors on behavior (Henschel et al. 2020).

2.2 Empirical Review

Roth et al. (2011) further observe that the teaching strategies in Japan give emphasis to abilities in education and are the backbone of industrialization as well as technical progression. Japan as a country continues to be aggressive globally in technology and in manufacturing. Teachers lay very little emphasis on theory kind of learning but give confidence in facts, experiences and visual presentations that were, supported by instructors allowing learners

to discuss in class to arrive at a sensible inference then followed by a summary of major points. The scholars found out that utilization of suitable teaching strategies realizes content aims. Roth and Garnier went forward and did a study in Netherland schools where the observed that learners take accountability of their individual learning as well as examining their efforts. There are reading materials and assignments with diverse scientific contents and association. Emphasis is, also laid on classroom dialogue to complement reading materials as instructors' function is assisting those with complex projects.

Seber and Lee (2012) investigated theTotal Ozone, derived from TOMS and OMI/AURA instruments, served as the sole explanatory variable in the model. Missing UV Index data were completed using the Predictive Mean Matching (PMM) method. The model achieved a mean squared error (MSE) of 0.36 for interpolation and 0.30 for extrapolation, correlating at 0.90 and 0.91 respectively. Forecasting for the climatological period (2012-2042) suggested an increasing trend in UV levels (Seasonal Man-Kendall test: $\tau = 0.955$, p-value = 0.001) if Total Ozone continues to decline, predicting nearly a one-unit increase in UV index by 2042.

Ahmad et al. (2023) revealed that teachers across all levels expressed satisfaction with the effectiveness of professional development, as all three hypotheses were supported, indicating a significant positive impact of effective teaching strategies, thorough planning, and subject-matter knowledge on student achievement. The study recommends enhancing professional development programs by integrating new technologies to strengthen teacher capacity at all school levels within the province.

III. METHODOLOGY

The study employed a descriptive survey research design. Creswell (2014) illustrate descriptive survey research design being a kind of study that portray the situation as it exists. In this design the researcher has no influence over the variables and can simply account for what has occurred or what is occurring and tries to find reasons on why the situation is what it is. Generally, the motive of employing descriptive research design lies on the fact that the method underlines proceeding occurrence with replies to similar questions in various persons as well as members being experimented in a normal moreover unaffected atmosphere. The study was carried out in Emuhaya Sub County, which has approximately 238,347 persons and covers an area of 323.6 Km^2 (Kenya National Bureau of Statistics (KNBS), 2019). The justification for the choice of this study locale was centered on the reality that it has quite a lot of schools that have special needs pupils. Mugenda and Mugenda (2012) terms a population for instance as series of topics, items, or components within the cosmos for a certain examination comprising the entire set of people, matter, case, pieces or effects with recognizable qualities or exclusivity. The study focused on all 159 public primary schools in Emuhaya Sub County, Vihiga County, Kenya, involving a total of 1,801 individuals, including 798 teachers and 1,003 pupils.

Table 1
Target Population

Category	Target population
Teachers	798
Learners	1003
Total	**1,801**

Sampling simply denotes the practice of getting information about a complete population by looking at barely a segment of it (Kothari, 2011). Krejcie and Morgan (1970) table for determination of sample sizes was utilized in coming up with a sample for this study. From the table, a target population of 1801 gave a sample size of 322. The sample size was proportionally distributed to sampled categories as shown in Table 2.

Table 2
Sample Size

Category	Target Population	Sample Size
Teachers	798	142
Learners	1,003	178
Total	**1801**	**320**

Data was collected through questionnaires designed for instructors and learners with special needs. Questionnaires, which gather data for specific points of analysis, were preferred for their time efficiency, confidentiality, and ability to cover a large sample (Orodho, 2009). Data analysis involved verifying raw data to ensure

accuracy, followed by coding to classify responses. Both quantitative and qualitative data were collected. SPSS version 26 was used to process questionnaire responses. Descriptive statistics, such as frequencies and percentages, were used to analyze data, which was presented in frequency distribution tables.

IV FINDINGS & DISCUSSIONS

4.1 Response Rate
Out of the 320 sampled, 235 responded to the study. This made a response rate of 73.4%. This was considered sufficient for analysis. Table 3 presents the response rate.

Table 3
Response Rate

Sampled	Responded	Response Rate
320	235	73.4%

4.2 Descriptive demographic information
The respondents were asked to state their demographic information like gender. The results are as shown in Table 4.

Table 4
Gender of the respondents

Sampled	Frequency	Percentage
Male	160	68.1%
Female	75	31.9%
Total	235	100.0

As shown in Table 4, majority 160(68.1%) were males while 75 (31.9%) were female. The study further asked the respondents to show their age.

4.2.1 Descriptive Statistics
The study sought to determine the effect of teaching strategies on academic performance of learners with special needs in public primary schools in Emuhaya Sub-County. The responses were based on a scale of 1-5, 1 strongly disagree, 2 disagree, 3 Neutral 4 Agree and 5 Strongly Agree. The results are as shown in Table 5.

Table 5
Teaching Strategies

Statement on Planning	Mean	SD
That school teachers modify their instruction approaches to fit learners with disabilities	4.30	0.96
Schoolteachers provide additional notes to learners who are abled differently	4.28	1.09
The classrooms atmosphere like lighting and sitting procedure are tailored to fit learners having disabilities	3.56	1.22
Teachers' do discuss with special needs learners in classroom about their requirement during meeting periods	3.10	1.55

Average mean= 3.81

The average mean was at 3.81 while the school teachers modify their instruction approaches to fit learners with disabilities was higher than the average mean at 4.30, the schoolteachers provide additional notes to learners who are abled differently was at 4.28 and that the classrooms atmosphere like lighting and sitting procedure are tailored to fit learners having disabilities was at 3.56. This implies that the respondents agreed with the statement positively. The other statement that teachers' do discuss with special needs learners in classroom about their requirement during meeting periods were lower than the average mean at 3.10. This implies that the respondents were involved in teaching strategies that enhanced academic performance of learners with special needs in public primary schools. The results agree with those of Roth et al. (2011) and Ahmad et al. (2023) that teachers prioritize practical abilities over theoretical learning, fostering technological and industrial advancements, with an emphasis on experiential and visual learning supported by interactive class discussions and summarizations.

4.2.2 Descriptive Statistics for Academic Performance
The study further assessed academic performance of learners with special needs in all public primary school in Emuhaya Sub-County, Vihiga County, Kenya. To achieve, a five-point Likert scale was employed as summarized in Table 6.

Table 6
Academic performance of learners

Statements	Mean	SD
There is an improvement in core subjects	3.264	0.424
Participation rates in classroom activities and engagement with learning materials improves	3.516	0.462
There is an improvement in achieving individualized educational goals and objectives	3.202	0.386
Learning outcomes such a grade improves over time	3.401	0.224

N=235

Table 6, shows that the respondents were undecided (Mean = 3.264, SD = 0.424) on whether there was an improvement in core subjects. Moreover, the respondents tended to agree (Mean = 3.516, SD = 0.462) that participation rates in classroom activities and engagement with learning materials improved. The respondents were undecided (Mean = 3.202, SD = 0.386) on whether there was an improvement in achieving individualized educational goals and objectives. Lastly, the respondents were undecided (Mean = 3.401, SD = 0.224) on whether learning outcomes such a grade improved over time. This suggest that there are improvements across core subjects, classroom participation, achievement of educational goals, and learning outcomes over the observed period. These results are in agreement with Römhild and Hollederer (2024) that improvements across core subjects, classroom participation, achievement of educational goals, and learning outcomes over the observed period.

4.3 Inferential statistics

After successfully analyzing the properties of the research variables, the study decided to deduce the findings through conducting inferential analysis. The averages from the primary data collected on the dependent variable (academic performance) and the independent variables (teaching strategies, in-service programs, school facilities and government funding) was used to further compute correlation, model summary, ANOVA and coefficient of the results. The study was also to examine the correlation between the variables using Pearson Product-Moment Correlation Coefficient.

4.3.1 Pearson Correlation

The Pearson Product-Moment Correlation Coefficient is denoted as r, is indicated as: $-1 \leq r = \geq+$; where 0 to 0.29 indicates weak positive correlation; 0.3 to 0.49 indicates moderately positive correlation; 0.5 to 1 indicates strong positive correlation. Conversely, -0 to -0.29 indicates weak correlation; -0.3 to -.49 indicates moderately negative correlation; and -0.5 to -1 indicates strong negative correlation. The results of this study as indicated in Table 7.

Table 7
Correlation Analysis

		Academic Performance	Teaching Strategies
Academic Performance	Pearson Correlation	1	.945**
	Sig.(2-tailed)		.000
	N	235	235
Teaching Strategies	Pearson Correlation	945**	1
	Sig.(2-tailed)	.000	
	N	235	235

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

Table 7 shows that there is a strong positive correlation between the variables (r=0.945, p<0.05). This is because the correlation coefficient is above 0.5. It also shows that the correlation between variables is statistically significant with a significance value of less than 0.01 at 99% level of confidence, which may imply that an increase or decrease in one variable does significantly relate to an increase or decrease in the second variable.

4.3.2 Regression Analysis

To determine how well the model fits the data, the researcher examined the goodness fit in the model summary where the associated regression results obtained during this exercise are shown in Table 8.

Table 8

Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.763	.761	2.519880

a. Predictors: (Constant), Teaching Strategies

The Coefficient of Determination or R square stands at 0.763 which implies that 76.30% of the variation in the academic performance (dependent variable) is explained by variability in the independent variables (teaching strategies). As such, only 23.70% of the variation in the academic performance is explained by other factors not included in the model. As such, guided by Seber and Lee (2012), it was concluded that at least one of the inclusive educations under assessment were useful predictors of academic Performance.

Table 9

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	212.636	4	53.159	185.223	.022[a]
	Residual	66.049	230	.287		
	Total	278.685	234			

Predictors: (Constant), Teaching Strategies
Dependent Variable: Academic Performance

At the 5% or 0.05 level of significance, the Analysis of Variance (ANOVA) output provides evidence to demonstrate that the slope of the regression line was not zero. This is because the P value of 0.022 is less than 5% level of significance, which is p value < 0.05. As such, a conclusion was reached that at least one of the independent variables teaching strategies was a useful predictor of academic performance. The table that follows presents the Regression Model Coefficients. The Regression Model is a key tool for the study at hand in explaining the effect if any between the variables under inclusive education on academic performance of learners with special needs.

Table 10

Regression Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.285	.713		2.790	.028
	Teaching Strategies	1.644	.420	.883	3.814	.012

a. Dependent Variable: Academic Performance

From the regression analysis output, all the regression coefficients for the independent variable that is teaching strategies is statistically significantly different from 0 (zero) since their P Values are all less than 0.05. The coefficient for teaching strategies (1.644) is significantly different from 0 because its p-value of 0.012 is less than 0.05 level of significance. This means that a unit increases in teaching strategies activities would lead to a 1.644 unit increase in the academic performance. The study agreed with past results reported by the National Research Council (NRC), 2005) who supported this with a feeling that teaching approaches in primary institutions focus on awareness of subject matter, delivers a groundwork based on fact of comprehension as well as theoretical awareness.

V.CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

The study concludes that teaching strategies significantly impact the academic performance of learners with special needs in all public primary schools. When school teachers adjust their instructional approaches, provide additional notes, customize classroom environments, and engage in discussions with special needs learners, it leads to improvements in their academic performance.

5.2 Recommendation

The study recommends that educators in all public primary schools adapt teaching strategies by adjusting approaches, providing support materials, customizing environments, and engaging in regular discussions with special needs learners.

REFERENCES

Ahmad, N., Rashid, S., & Ali, Z. (2023). Investigating primary school teachers' perceptions about professional development and its impact on students achievement. *Journal of Social Sciences Review, 3*(1), 809-823.

Alnahdi, G. H., Alwadei, A., & Alharbi, N. (2024). Enhancing special education programs' curricula for students with intellectual disabilities in saudi arabia: A call for personalized approaches and inclusive practices. *Research in Developmental Disabilities, 151*, 104785.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory.* Englewood Cliffs, NJ: Prentice Hall.

Chisom, O. N., Unachukwu, C. C., & Osawaru, B. (2023). Review of AI in education: transforming learning environments in Africa. *International Journal of Applied Research in Social Sciences, 5*(10), 637-654.

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches.* Thousand Oaks, CA: Sage.

Francisco, M. P., Hartman, M., & Wang, Y. (2020). Inclusion and special education. *Education Sciences, 10*(9), 238.

Henschel, A., Hortensius, R., & Cross, E. S. (2020). Social cognition in the age of human–robot interaction. *Trends in Neurosciences, 46*(3), 373-384.

Indangasi, R. D., Lwangale, D. W., Katie, H. O., & Connie, O. A. (2023). Analysis of Communicative Adjustment Activities Used to Enhance Speech Production and Use among Children with Mental Disabilities in Special Units in Vihiga County, Kenya. *GPH-International Journal of Educational Research, 06*(6), 23-35.

Ireri, B. R., King'endo, M., Wangila, E., & Thuranira, S. (2020). Policy strategies for effective implementation of inclusive education in Kenya. *International Journal of Educational Administration and Policy Studies, 12*(1), 28-42.

Kenya National Bureau of Statistics (KNBS). (2019). *2019 Kenya Population and Housing Census Results.* Nairobi: Government of Kenya.

Kothari, C. (2011). *Research Methodology: Methods and Techniques.* New Delhi: New Age International.

Krejcie, R., & Morgan, D. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*.

Materechera, E. K. (2020). Inclusive education: why it poses a dilemma to some teachers. *International Journal of Inclusive Education, 25*(7), 771-786.

Mitchell, D., & Sutherland, D. (2020). *What really works in special and inclusive education: Using evidence-based teaching strategies.* Routledge.

Mugenda, A. G., & Mugenda, O. M. (2012). *Research Methods Dictionary.* Nairobi: Kenya Arts Press.

National Research Council (NRC). (2005). *How students Learn Science in the Classroom.* Washington DC: The National Academy Press.

Orodho, A. (2009). *Elements of Education and Social Sciences Research Methods.* Nairobi: azezia Publishers.

Römhild, A., & Hollederer, A. (2024). Effects of disability-related services, accommodations, and integration on academic success of students with disabilities in higher education. A scoping review. *European Journal of Special Needs Education, 39*(1), 143-166.

Roth, K., Garnier, H., Chen, C., & Lemmens, M. (2011). Videobased Lesson Analysis: Effective Science PD for Teacher and Student Learning. *Journal of Research in Science teaching, 48*(2), 117 - 148.

Schunk, D. H., & DiBenedetto, M. K. (2020). Motivation and social cognitive theory. *Contemporary educational psychology, 60*, 101832.

Schwarcz, P., Ková čik, M., & Valach, M. (2021). The development of economic and social indicators in v4 countries. *Acta Polytechnica Hungarica, 18*(2), 47-68.

Seber, G., & Lee, A. (2012). *Linear Regression Analysis.* Hoboken: John Wiley & Sons.

Wanti, L. P., Romadloni, A., Somantri, O., Sari, L., Prasetya, N. W., & Johanna, A. (2023). English Learning Assistance Using Interactive Media for Children with Special Needs to Improve Growth and Development. *Pengabdian: Jurnal Abdimas, 1*(2), 46-58.