

# Critical Reflection Of Monitoring Students' Academic Progress By The Principal And Students' Academic Performance In Chemistry In Public Secondary Schools In Machakos County, Kenya

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**Abstract:** *The main purpose of this study was to determine the influence of monitoring students' academic progress by the principal on students' academic performance in chemistry in public secondary schools in Machakos County, Kenya. The study was guided by Transformational Leadership Theory developed by James MacGregor Burns in (1978). Convergent Parallel Mixed Methods Research Design was employed to enhance simultaneous collection of quantitative and qualitative data. The target population was 365 principals and 545 chemistry teachers in public secondary schools in Machakos County. Simple random sampling was used in sampling 73 principals and 109 chemistry teachers. Data was collected using questionnaires, interview schedules and document analyses. Quantitative data was analyzed using descriptive and inferential statistics with the help of SPSS Computer Programme version 26. Qualitative data from open-ended questions was analyzed using content analysis. Using Pearson moment correlation coefficient, the study established that monitoring students' academic progress by principals significantly influence students' academic performance in chemistry ( $r = .796, p < .001$ ). The study recommends that, the principals should ensure that there is delegation of some of the instructional supervisory roles to their deputies. This will ensure that instructional supervisory activities in the schools are carried out seamlessly especially in cases where the principals are overwhelmed by their administrative duties.*

**Keywords:** *Students academic progress, academic performance, monitoring, principals, evaluation, teaching*

## I. INTRODUCTION

Mulwa (2008) describes monitoring as a routine process of collecting and managing project data that gives feedback as pertains to the progress of the project. Monitoring is therefore an activity that involves continuous and systematic checking and observing of a program or a project. Monitoring and evaluation is done in the education sector to monitor programs like quality of education. The principal is responsible for monitoring and evaluation at the school level to ensure effective teaching and learning is going on (Willms, 2000). According to Lezotte (2010), monitoring of teaching and learning entails close examination of both learner academic results as well as the effectiveness of classroom procedures.

Progress monitoring is a practice that assists teachers in using student data to continually assess the effectiveness of their teaching by determining if students are benefiting from their teaching, as well as determining if teachers are making informed decisions about instruction (Harper-Young and Harper-Young, 2018). Monitoring of learning is conducted through assessment of test scores, and projects developed by students. Monitoring of teaching is through self-reflection of teachers themselves and by their supervisors through teacher evaluation. Assessment results of test scores is used in the planning of individual learner instruction as well as in informing decision making and planning for the entire school. According to Mathew and Poehner, (2014) secondary boards should acknowledge the need to carry out continuous

assessments that feed back into teaching. Data realized from school and classroom practices in monitoring is used to modify the teaching of the teachers so as improve student performance. Muthoni (2012) notes that an increasing number of countries over the years have attempted to reform supervision because of its effectiveness as a key tool in monitoring and improving the quality of education.

The goal of progress monitoring is to increase students' achievement and growth by making informed educational decisions regarding individual learners. This strategy is a fundamental for other educational practices in a data-informed educational environment. Progress monitoring should be used at the classroom and school level for both student and school improvement. Omogbehin (2013) study carried out in Minnesota, Iowa and Illinois revealed that, monitoring learners' advancement is an arrangement of related actions aiming to figure out what learners have achieved within a given set of standards. The study further reveals that the alarming number of learners failing in schools, especially at the secondary level, raises questions regarding the role that school leaders play in monitoring student learning over time, as principals bear the ultimate responsibility for ensuring all students learn.

#### A. STATEMENT OF THE PROBLEM

It is important for teachers to acquire knowledge in using a variety of assessment options such as self and-peer assessment, observation, and portfolio. Reviewed studies have revealed that, as a result of lack of frequent assessment, teachers are unable to provide students with consistent and timely feedback on their performance. The current study will conduct investigations aimed at trying to find out how principals understand and exercise their mandate in undertaking their ascribed roles of monitoring students' academic progress.

#### B. PURPOSE OF THE STUDY

This study was conducted to determine the influence of monitoring students' academic progress by the principal on students' academic performance in chemistry in public secondary schools in Machakos County, Kenya.

#### C. RESEARCH HYPOTHESIS

The study was guided by the following hypothesis:

H<sub>0</sub>1: There is no statistically significant effect between monitoring students' academic progress by the principal and students' academic performance in chemistry in public secondary schools in Machakos County, Kenya.

### II. METHODOLOGY OF RESEARCH

In order to be able to answer the research questions, a Convergent Parallel Mixed Methods Research Design was employed. The study targeted all the 365 principals of the public secondary schools and the 545 teachers of chemistry in Machakos County. Hence 73 principals and 109 teachers of

chemistry were sampled for the study using simple random sampling respectively. Thus, the total sample size of the study was 182 respondents. The research instrument used include questionnaires, interview and document analysis.

To ensure consistency, data was cleaned so as to detect and remove errors. Cleaned data was coded by assigning numerals to the answers and both descriptive and inferential statistics analyses generated. Coding of the data was done using SPSS computer programme version 26. Descriptive statistics representing various research items were generated in frequencies, mean, standard deviation and variance and summarized using tables and graphs with a statistical discussion of the results given. Responses from the interview guides were recorded on tape then presented in form of narratives. Data from the interviews was transcribed first, then thematically analysed in order to connect main themes that emerged from the study into a clear narrative. Inferential statistics included correlation and regression.

### III. RESULTS AND DISCUSSIONS

This section presents the study outcomes and analysis of the findings according to the study objective.

#### A. MONITORING STUDENTS' ACADEMIC PROGRESS

This sub-section used descriptive statistics specifically percentages, means and standard deviation to indicate the respondents degree of agreement on the listed statements on monitoring students' academic progress. Items that were crafted to measure this variable were on a 5-point Likert scale and described as; 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree. Table 1 shows the findings.

Statement	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Mean	SD
1. Monitoring creates an overview of the quality of education in the school	43 (50.0)	32 (37.2)	4 (4.7)	5 (5.8)	2 (2.3)	1.73	.963
2. Monitoring helps identify some of the teaching and learning challenges encountered in school	64 (74.4)	12 (14.0)	3 (3.5)	6 (7.0)	1 (1.2)	1.47	.942
3. Monitoring helps to diagnose the shortcomings in implementation of the curriculum	57 (66.3)	20 (23.3)	2 (2.3)	4 (4.7)	3 (3.5)	1.56	1.001
4. Supervision of students' assignments and projects helps teachers gauge their understanding	28 (32.6)	37 (43.0)	7 (8.1)	8 (9.3)	6 (7.0)	2.15	1.183
5. Frequent testing of students and feedback given make them have positive attitudes towards tests	33 (38.4)	30 (34.9)	4 (4.7)	10 (11.6)	9 (10.5)	2.21	1.347
6. Monitoring alerts teachers on their instructional pace and hence syllabus coverage	35 (40.7)	41 (47.7)	0 (0.0)	9 (10.5)	1 (1.2)	1.84	.956
7. Checking students' attendance register helps to know those who miss lessons and why	62 (72.1)	23 (26.7)	0 (0.0)	1 (1.2)	0 (0.0)	1.30	.533
<b>Average score</b>						<b>1.75</b>	<b>.989</b>

Source: Survey Data (2023)

Table 1: Monitoring students' academic progress (N=86)

Table 1 shows that the respondents strongly agreed to five statements as indicated by means that lie between (M =1.30 - 1.84) and agreed to two statements as indicated by a mean that lies between (M =2.15 - 2.21). Respondents strongly agreed that monitoring creates an overview of the quality of education in the school (M = 1.73, SD = .963). Respondents strongly agreed that monitoring helps identify some of teaching and learning challenges encountered in school (M = 1.47, SD =

.942). Respondents strongly agreed to the statement that monitoring helps to diagnose the short comings in implementation of the curriculum (M = 1.56, SD = 1.001). Respondents strongly agreed to another statement which asked them if monitoring alerts teachers on their instructional pace and hence syllabus coverage (M = 1.84, SD = .956). Respondents also strongly agreed that checking students' attendance register helps to know those who miss lessons and why (M = 1.30, SD = .533). On the other hand, respondents agreed to the statement that supervision of students' assignments and projects help teachers gauge their understanding (M = 2.15, SD = 1.183). Respondents also agreed that frequent testing of students and feedback given make them have positive attitudes towards tests (M = 2.21, SD = 1.347). An average mean score of 1.75 was recorded indicating that respondents strongly agreed to the issues raised as having an impact on students' academic progress.

This result is in line with the findings of Mngomezulu and Bhengu (2015) that monitoring helps school principals to discover the needs of the learners and difficulties encountered by the teachers as they dispense knowledge. This finding also supports earlier findings by Karani, Bichanga and Kamau (2014) who reported that monitoring generates daily feedback on student achievement and potential problems and how to solve them; evaluate the effectiveness of the various practices used and suggest improvements; evaluate how these practices serve to realize their common goals and provide a course for improving teaching and learning. Further this finding also confirms Mestry (2017) who aver that the role of principals is to ensure processes for effective teaching and learning are in place by monitoring teachers and learners' progress and obtain feedback on performance of every learner through the outcome of continuous assessment programs. Ampofo, Onyango, and Ogola (2019) assert that principals should be more careful in monitoring learners' assessment records and assignments.

The study findings are supported by Kinyua (2013) findings that monitoring and evaluation leads to effective teaching and learning in all schools as it helps improve and diagnose weak areas in the curriculum by enhancing curriculum delivery, improving performance and teaching techniques adopted by teachers. These findings tend to agree with the findings of Kling, McCorkle, Miller and Reardon (2010) who postulated that students may appreciate the opportunity of more frequent tests as it provides them with a much easier opportunity to improve after a failure on a test than when the first test is a major one. Frequent tests lead to possible reduction of anxiety which may be appreciated and reflected in the student evaluations. This is further supported by the findings of Öncül (2017) who observed that frequent tests assist in improving students' retentions skills and help teachers monitor students' learning and help students see their own progress. Oghuvbu (2010) asserts that through regular school attendance, learners get to access consistent educational support for their academic attainment. The study findings agree with Bagaya (2019) who posit that it is legitimate for school teachers to maintain a daily student attendance record that is regularly reviewed by the principal. The findings further agree with Mokhtari, Nikzad, Mokhtari, Sabour and Hosseini (2021) who pointed out that class

attendance and learning have received a lot of attention as there is a well-established positive relationship between class attendance and academic grades. The findings are also in line with those reported by Ikenga and Ogbaga (2021) that students attend school regularly so as to acquire the necessary knowledge incidental for them to perform well academically especially in external examinations. In contrast, Kagochi, Kimosop and Mbugua (2019) findings indicate that although the class attendance registers were in place in secondary schools, they were rarely regularly checked to follow up on the cases of lesson absenteeism among learners.

## B. CORRELATION AND REGRESSION ANALYSIS

The study sought to determine the influence of monitoring students' academic progress by the principal on students' academic performance in chemistry in public secondary schools in Machakos County, Kenya.

This was guided by the following null hypothesis;

H<sub>0</sub>1: There is no statistically significant effect between monitoring students' academic progress by the principal and students' academic performance in chemistry in public secondary schools in Machakos County, Kenya.

Pearson product correlation of monitoring students' academic progress and students' academic performance was found to be highly positive and statistically significant ( $r = .796$ ,  $p < .001$ ). Hence, H<sub>0</sub>1 was rejected. This show that an increase in monitoring students' academic progress would significantly improve students' academic performance. This study concludes that there is a statistically significant relationship between monitoring students' academic progress by the principal and students' academic performance in chemistry in public secondary schools in Machakos County, Kenya. The correlational analysis results are shown in Table 2.

		Monitoring progress	Student's performance
Monitoring progress	Pearson Correlation	1	.796**
	Sig. (2-tailed)		.000
	N	86	86
Student's performance	Pearson Correlation	.796**	1
	Sig. (2-tailed)	.000	
	N	86	86

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

Table 2: Correlation analysis of monitoring students' academic progress and students' academic performance

A Regression analysis was conducted to empirically investigate the influence of monitoring students' academic progress by the principal on students' academic performance. The regression results in Table 3 indicate that the goodness of fit for the regression of independent variables and the impact of students' monitoring on their performance is satisfactory. An R squared of 0.697 indicates that 69.7% of the variations, diligent monitoring of students' academic progress by school principals has shown a positive impact on both the statistical variables of student performance and academic progress. From this it can thus be asserted that suggests that effective oversight contributes to improvements in students' academic achievements, particularly in the field of chemistry, within

public secondary schools in Machakos County, Kenya and that the variation is small. Table 3 shows the results.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.835	0.697	0.689	0.537

a. Predictors: (Constant), Students performance, Students' Academic Progress

Table 3: Model Summary for the impact of monitoring students' academic progress

The comprehensive significance of the model is detailed in Table 4. With an F-statistic of 95.303, the overall model demonstrates statistical significance. These results suggest that the strategy plays a crucial role in explaining the impact of monitoring students' academic progress on their performance.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	54.930	2	27.465	95.303	0.000b
1 Residual	23.919	83	0.288		
Total	78.849	85			

a. Dependent Variable: Students' Academic Performance

b. Predictors: (Constant), Students Performance, Students' Academic Progress

Table 4: ANOVA for the impact of monitoring students' academic progress

The impact of monitoring students' academic progress coefficients are presented in Table 5. The results show that students' performance and students' academic progress significantly to the model since the p-value for the constant and gradient are less than 0.05. The findings imply that one positive unit change in principal's monitoring on students' academic progress leads to a change in students' performance at the rate of 70.5%. This confirms the positive effect of monitoring on students' academic progress on students' performance.

The fitted equation is as shown below

$$Y = 0.948 + 1.538 + 0.705X_1$$

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-0.948	0.203		-4.680	.000
1 Students' Academic Progress	0.705	0.170	0.334	4.158	.000
Students' performance	1.538	0.215	0.576	7.159	.000

a. Dependent Variable: Students' Academic Performance

Table 5: Coefficients of impact of monitoring students' academic progress

#### IV. CONCLUSION AND RECOMMENDATION

##### A. CONCLUSION

To some extent principals have embraced the instructional supervisory role of monitoring students' academic progress. However, the principals have not fully

adopted peer assessment, formative assessments and presentations as part of their instructional supervision roles.

##### B. RECOMMENDATION

The principals should ensure that there is delegation of some of the instructional supervisory roles to their deputies. This will ensure that instructional supervisory activities in the schools are carried out seamlessly especially in cases where the principals are overwhelmed by their administrative duties.

#### REFERENCES

- [1] Ampofo, S. Y., Onyango, G. A., & Ogola, M. (2019). Influence of school heads' direct supervision on teacher role performance in Public Senior High Schools, Central Region, Ghana. *IAFOR Journal of Education*, 7(2), 9–26. <https://doi.org/10.22492/ije.7.2.01>.
- [2] Bagaya, J. (2019). Secondary School Inspection Practices in Western Uganda: Implications on Pedagogy. Unpublished PhD Thesis. Makerere University, Kampala.
- [3] Harper-Young, K. & Harper-Young, K. (2018). The impact of progress monitoring structures on student achievement. Dissertations. 301. <https://digitalcommons.nl.edu/diss/301>
- [4] Ikenga, N. C., & Ogbaga, E. (2021). Influence of working relationship between principals and teachers on students activities in secondary schools in Awgu Education Zone of enugu state. *Journal of Education and Practice*, 12(36), 63–71. <https://doi.org/10.7176/jep/12-36-08>
- [5] Kagochi, E. N., Kimosop, M., & Mbugua, Z. K. (2019). Influence of internal quality assurance practices on students' academic performance in secondary schools in Kieni constituency, Kenya. *The International Journal of Humanities & Social Studies*, 7(8), 93–103. <https://doi.org/10.24940/theijhss/2019/v7/i8/146635-359233-1-sm>
- [6] Karani, F.N, Bichanga, W.O, & Kamau, C.H, (2014). Effective Use of Monitoring Systems in Managing HIV/AIDS Related Projects: A Case Study of Local NGOS in Kenya. *Science Journal of Business and Management*, 2(2), 67-76. doi: 10.11648/j.sjbm.20140202.13
- [7] Kinyua, T. N. (2013). Influence of Monitoring and Evaluation Process on Teaching and Learning among Public Primary Schools in Gatanga Sub County, Murang'a County, Kenya. Unpublished Masters Project, University of Nairobi.
- [8] Kling, N., McCorkle, D., Miller, C., & Reardon, J. (2010). The impact of testing frequency on student performance in a marketing course. *Journal of Education for Business*, 81(2), 67–72.
- [9] Lezotte, L.W (2010). What effective schools do: Re-envisioning the correlates. Indianapolis, IN: Solution Tree.
- [10] Mathew, R., & Poehner, M. (2014). Monitoring progress in the classroom. In A. J.
- [11] Kunnan (Ed.) *The Companion to Language Assessment*. California: John Wiley & Sons, Inc.

- [12] Mestry R. (2017). Principals' perspectives and experiences of their instructional leadership functions to enhance learner achievement in public schools. *Journal of Education*, 69, 257-280.
- [13] Mngomezulu N.M & Bhengu T.T. (2015). Strategies of monitoring teaching and learning: A school management team perspective, University of KwaZulu Natal. Durban, South Africa.
- [14] Mokhtari, S., Nikzad, S., Mokhtari, S., Sabour S. & Hosseini, S. (2021). Investigating the reasons for students' attendance in and absenteeism from lecture classes and educational planning to improve the situation. *Journal of Education and Health Promotion*, 10, 1-10.
- [15] Mulwa, F. W. (2008). Participatory monitoring and evaluation of community projects. Nairobi: Paulines Publications Africa.
- [16] Muthoni, L. M. (2012). Influence of student councils on management of discipline in secondary schools in Kirinyaga East District: Kenya. Unpublished M.Ed. Thesis, Karatina University.
- [17] Oghuvbu, E. P. (2010). Attendance and academic performance of students in secondary schools: A correlational approach. *Studies on Home and Community Science*, 4(1): 21-25.
- [18] Omogbehin, E. (2013) The principal's role in monitoring student progress at the middle school level. A Doctoral dissertation submitted to the faculty of San Diego State University.
- [19] Öncül, G. (2017). Frequent testing: What are the real impacts of frequent quizzes on students, teachers, and instruction? *Turkish Online Journal of English Language Teaching (TOJELT)*, 2(1), 1-19
- [20] Wills, D. J. (2000). Monitoring school performance for standard based reforms. *Education & Research in Education*, 14 (4). <https://doi.org/10.1080/09500790008666976>

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