

Internal Examination Administration Practices and Students' Academic Achievement in Public Day Secondary Schools

Papa Osukuku Ben^{1*}, Simon Kipkenei¹, Sara Likoko¹

¹Kibabii University, P.O. BOX 1699-50200, Bongoma, Kenya

DOI: [10.36347/sjahss.2021.v09i11.001](https://doi.org/10.36347/sjahss.2021.v09i11.001)

Received: 23.09.2021 | Accepted: 30.10.2021 | Published: 06.11.2021

*Corresponding author: Papa Osukuku Ben

Abstract

Original Research Article

Globally, education stakeholders have a growing concern about students' dismal academic achievement in standardized examinations in secondary schools. However, what is not known is how secondary schools internal examination administration practices affect students' academic achievement. Hence, the purpose of the study was to determine the influence of internal examination administration practices on students' academic achievement in public day secondary schools in Busia County, Kenya. The hypothesis of the study was that internal examination administration practice has no statistically significant influence on students' academic achievement in public day secondary schools in Busia County, Kenya. The study was guided by the Education Production Function Theory and employed an ex-post facto research design. The study population comprised of 7,388 form four students of 2020 and 115 Directors of Studies (DOS) in the 115 public day secondary schools in Busia County. Multistage sampling was used to draw a sample of 661 respondents constituting of 626 form four students of 2020 and 35 Directors of Studies. Data was collected using; a questionnaire for form four 2020 students and Directors of Studies; and document analysis. Face and content validity of research instruments were ascertained using experts' opinion from the supervisors while reliability was determined using Cronbach's Alpha and reliability of 0.954 and 0.923 for the candidates' questionnaire and Directors of Studies questionnaire respectively were considered reliable. Quantitative data was analysed descriptively using mean and inferentially using Multiple Linear Regression by aid of Stata version 12.1 and results presented in form of tables. The study concluded that ineffectiveness in internal examination administration practices in public day secondary schools influence students' academic achievement in Kenya Certificate of Secondary Education examination. The study recommended that public day secondary schools should develop internal examination administration policies to encourage teachers to help students appreciate and understand the meaning and need of internal examinations.

Keywords: Internal Examination, Administration Practices and Academic Achievement.

Copyright © 2021 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Consistent and proper administration of examinations increases the likelihood of fair, valid and reliable assessment of students' academic achievement. This is achieved through administration of examinations and tests under consistent, standard procedures and condition designed to prevent examination malpractices. Adow, Alio and Thinguri (2015) report that in the recent times, examination malpractice has become an issue of growing concern in education world over and that candidates have employed many sophisticated strategies to tactically cheat in examination, even though they know examination malpractice erodes the quality of the academic

achievement. Also, Clotfelter, Ladd and Vigdor (2012a, 2012b) add that policies regarding the placement of students into higher grades can significantly affect students' academic performance and long-term outcomes in the career prospects.

Nyamwange, Onderi and Ondima (2013) established that examination anxiety, stiff competition among schools, poor preparations of candidates and poor invigilation of the examinations were major factors influencing examination malpractices in schools in Kisii County. Similarly, Tawiah, Alberta, Bossman and Snr, (2015) in a study to examine the perception and reasons of examination malpractice among Students in Ghana revealed that candidates engage in

examination cheating as a result of high societal expectations and poor administration of examinations which promotes copying, collusion and smuggling of illegal materials in examination room. Furthermore, students have nowadays developed the belief that examination malpractice is normal (Alutu & Aluede, 2006) and argue that without cheating one fails, yet, those students who cheat gain an advantage (Tawiah *et al.*, 2015).

Beck (2014) suggest that Online examinations tend to reduce text anxiety for those suffering from high anxiety in class settings and even in cases where they are not invigilated, they do not seem to increase cheating behavior compared to class examinations. Karagiannopoulou and Milienos (2013) compared the preference of essay-type closed-book and open-book examinations and found that open-book examinations were preferred by students who tend to employ deep strategy but appear to be unorganized in their study in the same ways as students who tend to adopt surface approach. Bowman, Gulacar, and King (2014) focused on online exam outcomes, while this study focuses on offline exam outcomes.

According to Gudhlanga and Mafa, (2012), different parties play important roles in examination management. This means that those who are uncommitted compromise quality assurance in the examinations. For example, invigilator's absence from an examination room creates conducive environment for candidates to cheat. Butler, Herrington, Hughes and Kritsonis (2007), in a study conducted in Poland assert that learners cheat in examinations because of poor invigilation during examinations. This was supported by Deshiet al. (2016) whose study in Nigeria found out that the main kinds of cheating offences committed by students were; copying from each other (43%) and possession of foreign materials (32%). In addition, students perceived poor sitting arrangement during exams (53%) as an issue.

In America, McCabe, Trevino and Butterfield (1999) found that between 75 and 80 percent of learners acknowledged to copying from others or taking unauthorized materials into examination halls were techniques the candidates used to cheat in examinations. Ogunji (2011) in a study in Nigeria points out that, invigilators read newspapers while in the examination rooms or engage in discussions that give candidates an opportunity to cheat. Gudhlanga and Mafa (2012) also state that invigilators who engage in other activities during invigilation compromise the process of examination administration. Nwokora, (2010) points out that people given the mandate to protect the examination process, compromise it by taking bribes. This gives room for impersonation where cheating takes place in the examination rooms. In this case, invigilators, supervisors, security officials and

examination officials who are employed to guide and conduct examinations betray the trust reposed in them due to greed for money and desire for quick wealth.

In a study conducted in China, Luxia (2004) observes that impersonation is a problem in administration examination. The study asserts that in the National Higher Entrance Examination, hired test takers assume the student's identity during the examinations. Ladyshevsky (2015) explored exam administration for PhD students using online media. One question that emerges with the use of unsupervised online testing (e.g. multiple choice question (MCT) testing) is the possibility that cheating is greater (Fask, Englander, and Wang 2014; Styron and Styron 2010). Younger students admitted to cheating more often. The author concluded that cheaters are going to cheat regardless of the mode of instruction. The problem with using self-report surveys to assess the extent to which cheating is occurring in online and conventional environments may not yield valid results even with assurances of anonymity (Fask, Englander, and Wang 2014).

While supervisors can be nominated or hired to oversee the student taking the test, this can become administratively complex and time consuming if you have students all over the world taking the course. While there is work being undertaken to develop technologies that can authenticate individuals using web cameras and remote supervisors (Kolowich 2013), or finger print and identification checking mechanisms and retinal scanning, these are costly and often raise questions about personal privacy. Mokula and Lovemore, (2014) also found that female candidates hide notes on their thighs as well as inside false fingernails with the belief that male invigilators will ignore them for fear of being accused of sexual harassment. Officers managing examinations are also not adequately trained on all examination administration guidelines and policies. Gudhlanga and Mafa (2012), Nwokora, (2010) and Gudhlanga and Mafa, (2012) studies focuses on exam administration efficiency from the viewpoint of the invigilator but this study is centered on internal exam outcomes on grade performance.

Mwonga (2019) asserts that many invigilators do not report incidences of cheating for fear of being attacked by those involved. Invigilators are in many times beaten up by desperate students who blame such invigilators of standing in their way to cheat. According to a report by the China examination body in 2013, in one of the secondary schools, when candidates realized they were to be invigilated by other teachers other than their own they started protesting. Invigilators were trapped in the school offices and groups of students started stoning the windows as an angry mob smashed their cars (Hill, 2013).

According to Ogunji (2011), poor sitting arrangements that do not meet the recommended spacing standards lead to congestion in examination rooms and ineffective control over the candidates. Moreover, insufficient number of invigilators brought about poor invigilation. Muchai (2014) asserts that majority of the examination officials fear getting involved in the long and complicated process of reporting and punishing parties involved in cheating and hence ends up not reporting all the cases. In this case, invigilators, supervisors, principals and other stakeholders fail to take appropriate discipline measures against people involved in examination malpractice.

Objective of the Study

The study therefore aimed to determine the influence of internal examination administration practices on students' academic achievement in public day secondary schools in Busia County, Kenya.

MATERIALS AND METHODS

Research Design

The study adopts an ex-post facto research design. An ex-post facto research design was considered appropriate for two main reasons: one; the public day secondary schools have pre-existing internal examination management practices; and two, the students in public day secondary schools have their Kenya Certificate of Secondary Education mean scores attained in 2020. Therefore, the intention of this study is to establish how pre-existing internal examination management practices influences students' academic achievement in public day secondary schools', events that have already occurred and cannot be manipulated (Kerlinger & Lee, 2000; Cohen, Manion & Morrison, 2000; Marilyn & Jim, 2013). Furthermore, the design allows collection of both quantitative and qualitative data that are subjected to both descriptive and inferential analysis.

Study Population, Sample Size and Sampling Techniques

The study population involved 7,503 comprising of 7,388 form four students of 2020 and 115 Directors of Studies (DOS) in the 115 public day secondary schools in Busia County (Busia Education Office, 2019). The public day secondary schools were considered by the fact that they are the most accessed by a larger public and take the largest portion of students who transits from primary to secondary

schools compared to boarding schools. Besides, public day secondary schools continue to post low quality grades in Kenya Certificate of Secondary Education examinations. The sample size of 522 form four candidates was first determined using the Watson (2001) formula and further adjusted upwards by 20 per cent to cater for non-response and incomplete responses (Israel, 1992). This gave a final sample size of 626 form four candidates. The study employed purposive, stratified simple random and proportionate sampling techniques. Purposive sampling was used to select 35 Dean of Studies from public day secondary schools while stratified and simple random sampling techniques were used to draw a sample of 626 form four students of 2020.

Validity and Reliability of Research Instruments

Face and content validity of the research instruments was determined by the supervisors to ascertain clarity, meaningfulness, and relevance of questions to the respondents and that they adequately measured the domain under study (Cohen *et al.*, 2000). The recommended adjustments were incorporated as per the supervisors' advice. To ensure reliability of the research instrument, a pilot study was conducted in 5 public day secondary schools in Busia County. A total of 30 form four students of 2020, three from each school and ten Directors of Studies were used in piloting making a total of 40 respondents. The schools and all the respondents were purposively sampled for piloting. Split-half test technique was employed to test the reliability at the chosen level of significance; $\alpha=0.05$. A Cronbach's Alpha reliability of 0.954 and 0.923 for the candidates' questionnaire and Dean of Studies questionnaire respectively were considered reliable (Kathuri & Pals, 1993; Mugenda & Mugenda, 2003).

RESULTS AND DISCUSSION

To test the null hypothesis that internal examination administration practices have no statistically significant influence on students' academic achievement in public day secondary schools, the study modelled the influence of internal examination administration practices on students' academic achievement in public day secondary schools in Busia County, Kenya using multiple linear regression analysis. The three models computed to establish the influence of internal examination administration practices on students' academic achievement are presented in Table 1.

Table 1: Multiple Linear Regression Coefficients of the Effect of Internal Examination Administration Practices on Student Aggregate Points in KCSE 2020

Variable label	Model 1				Model 2				Model 3			
	UC	RSE	P	β	UC	RSE	P	β	UC	RSE	P	β
Frequently given exams	0.61	0.24	0.010	0.12	0.37	0.20	0.065	0.08	0.38	0.20	0.062	0.08
Frequency of testing motivates me	0.03	0.19	0.881	0.01	0.08	0.15	0.599	0.02	0.05	0.16	0.750	0.01
Spacing of exams	-0.22	0.18	0.218	-0.05	-0.16	0.14	0.267	-0.04	-0.16	0.14	0.262	-0.04
Sitting arrangement makes it hard to copy	-0.22	0.15	0.137	-0.06	-0.16	0.13	0.192	-0.04	-0.16	0.13	0.206	-0.04
Exams done within given time	0.11	0.16	0.509	0.03	0.01	0.14	0.916	0.00	0.02	0.14	0.880	0.01
Understand needs in exams	0.51	0.18	0.006	0.12	0.33	0.15	0.033	0.08	0.31	0.15	0.041	0.07
Exams well organized	0.11	0.17	0.505	0.03	0.18	0.14	0.208	0.05	0.21	0.15	0.160	0.05
Agree with manner of exams	0.03	0.19	0.882	0.01	0.01	0.15	0.944	0.00	0.01	0.15	0.929	0.00
Exams fair to all students	0.24	0.18	0.181	0.06	0.10	0.14	0.491	0.03	0.10	0.14	0.502	0.03
Exam malpractice handled immediately	0.08	0.18	0.661	0.02	0.06	0.14	0.676	0.01	0.05	0.14	0.719	0.01
Sex of student												
1=Male student					0.72	0.75	0.335	0.03	0.73	0.75	0.330	0.03
Student's KCPE score					0.16	0.01	<.001	0.56	0.16	0.01	<.001	0.55
Number of days absent from school					-0.17	0.05	<.001	-0.10	-0.16	0.05	0.001	-0.10
School mean score 2020									1.08	0.76	0.154	0.05
Constant	19.51	1.83	<.001		19.33	2.90	<.001		-21.76	3.70	<.001	
Model Statistics												
N	615				615				615			
F statistics	F (10,603) = 2.46, $p=0.0068$				F(13, 600) = 27.24, $p<.001$				F (14, 599) = 25.20, $p<.001$			
R ²	0.0457				0.3785				0.3807			
RMSE	11.52				9.32				9.31			
<i>Note.</i> UC=Unstandardized Coefficient; RMSE=Standard deviation of the regression model (the closer to zero better the fit); RSE=Robust Standard Error; Prob=Probability												

Source: Stata Output, 2020

The results of the multiple linear regression (MLR) in Table 1 shows that the constant of regression was significant for both model 1, 2 and 3 at $p<0.001$, an indication that the model captured all the pertinent variables that explained the variations in student aggregate points in Kenya Certificate of Secondary Education (KCSE) 2020 in public day secondary schools in Busia County, Kenya. The F-statistics ($F(10,603) = 2.46, p=0.0068$; $F(13, 600) = 27.24, p<.001$; and $F(14, 599) = 25.20, p<.001$) for model 1, 2, and 3 respectively indicate that the R^2 for the three models were significantly different from zero at $p=0.05$. These imply that all the coefficients in the model were significantly different from zero and were important in explaining the variation in student aggregate points in Kenya Certificate of Secondary Education (KCSE) 2020 in public day secondary schools in Busia County, Kenya.

In model 1, the study estimate the effect of internal examination administration practices on student aggregate score in KCSE 2020. The model is significant at 5% with r-squared at 0.0457. This suggests that the internal examination administration practices accounted for 4.57% of the variation in students' aggregate points in KCSE 2020. Also, the results in Table 1 model 1 suggest that public day secondary schools which frequently give internal examinations enable students to attain higher aggregate points. Moreover, Model 1 results in Table 1 indicate that a one unit increase on a scale of 0-10 where 0= no understanding of exam needs at all and 10= maximum understanding of exam needs

is associated with a 0.50762678 increase in a student's aggregate points in the KCSE. Therefore, it suggest that the more the public day secondary schools make students understand the needs of internal examination the higher the students' aggregate points in national examinations.

Model 2 models the effect of internal examination administration practices on student aggregate KCSE points controlling for student-level variables. The model is significant at $p<.001$ with an improved r-square value of 0.3785 from 0.0457 in model 1 in Table 1. This implies that the variables in the second model improved significantly the model and explained 37.85% of the variation in student aggregate points in KCSE 2020. Out of the 10 variables of internal examination administration practices, the variable; Understand needs in exams is significant at $p=0.05$. In addition, the student level variables, student's KCPE score and number of days absent from school were significant. The results of model 2, therefore, indicate that one unit increase on a scale of 0-10 where 0= no understanding of exam needs at all and 10= maximum understanding of exam needs is associated with a 0.3258532 increase in a student's aggregate points in the KCSE; one unit increase in the student's KCPE score is associated with a 0.1610625 increase in that student's aggregate points in the KCSE; and an extra day of absence from school is associated with a -0.1723517 decrease in that student's aggregate points in the KCSE. The results suggest that public day

secondary schools that endeavour to make students understand the needs of internal exams are predicted to have students post higher KCSE aggregate points. Equally, students with higher entry behaviour in public day secondary schools are poised for better achievement points in KCSE and that students who miss school are more likely to post lower aggregate points in KCSE compared to those who regularly attend to school.

In mode 3, the study models the effect of internal examination administration practices on student aggregate points in KCSE controlling for student and school-level variables. Just like in the second model, the model is significant at $p < .001$ with r-squared having improved marginally to 0.3807 from 0.3785 in model 2. This implies that the variables in the final model were able to explain 38.07% of the variation in student aggregate points in KCSE 2020. The results of model 3 in Table 1 indicate that out of the 10 variables of internal examination administration practices, the variable on 'understand needs in exams' and student level variables on 'student's KCPE score' and 'number of days absent from school' were significant at $p = 0.05$. The results of the final model 3 in Table 1 indicates that a one unit increase on a scale of 0-10 where 0 = no understanding of exam needs at all and 10 = maximum understanding of exam needs is associated with a 0.3106285 increase in a student's aggregate points in the KCSE; one unit increase in the student's KCPE score is associated with a 0.1571509 increase in that student's aggregate points in the KCSE; and an extra day of absence from school is associated with a -0.1619164 decrease in that student's aggregate points in the KCSE. The results suggests that the more public day secondary schools makes the students understand the needs of internal exams, the better a student's KCSE aggregate points. In addition, the results imply that students with higher entry behaviour in public day secondary schools are poised for better aggregate points in KCSE compared to those with lower entry behaviour, and that those students with more days of absenteeism in public day secondary schools are predicted to post lower KCSE aggregate points compared to those who attend school regularly.

Lastly, the study tested the overall effect of the individual proxies of internal examination administration practices on student aggregate points in KCSE controlling for student and school-level variables. The hypothesis test for all the 10 explanatory variables suggest that at least one variable is statistically significant ($p = 0.0123$). Therefore, this study rejects the null hypothesis that internal examination administration practices have no effect on student's aggregate points in KCSE. Indeed, the results suggest that internal examination administration practices are important in explaining variations in student's aggregate points in

KCSE in public day secondary schools in Busia County Kenya.

The findings of this study indicate that public day secondary schools which have put mechanisms of making students appreciate and understand the meaning and need of internal examinations have their students predicted to post 0.3106285 aggregate points higher in KCSE. The study findings imply that internal examination administration practices of public day secondary schools are important in explaining variations in students' aggregate points in KCSE. Further, the study findings indicate that students' with higher achievement scores in KCPE are predicted to score 0.1571509 points higher in KCSE than those with lower entry KCPE scores. This implies that students KCPE entry behaviour is significant in explaining differentials in students' aggregate points in KCSE in public day secondary schools. Besides, the findings of the study indicate that there is a negative relationship between students' absenteeism and students' aggregate points in KCSE. The findings show that students who miss school up to eight days are predicted to score -0.1619164 points less in their aggregate points in KCSE than those who attend school regularly.

The findings of this study are similar to a number of studies. For example, studies done by Gudhlanga and Mafa (2012), Nwokora, (2010) and Gudhlanga and Mafa, (2012) emphasizes on exam administration efficiency and how they affect the overall performance of students. The studies suggest that school administration should create an enabling environment that makes students understand the need and value of internal examinations. This they argue has a positive net effect on student outcomes in final examinations. Other studies like that of Nyamwange *et al.* (2013) on how competition, inadequate facilities, ineffective teaching, anxiety, poor preparation and invigilation influence students cheating in secondary school examinations in Kisii County suggest the need for thorough guidance and counseling and adequate preparation of students for examinations. Besides, the study by Tawiah, Alberta, Bossman and Snr, (2015) on perception and reasons of examination malpractice among students in Ghana suggest the need for better internal examination administration to curb exam malpractices by students. It has also been argued by Shukla (2019) for the need of conducting continuous assessments to make students get used to examination procedures and requirements. Similar sentiments are shared by Kuyoro, *et al.*, (2016) who emphasizes on the need for continuous assessment test as a tool to curb examination malpractices. According to Gudhlanga and Mafa, (2012), different parties play important roles in examination management. He emphasizes on the need for better examination administration to ensure that the quality of examinations is not compromised.

CONCLUSION

The results of the multiple regression analysis after controlling for student and school level variables in the model indicate that internal examination administration practices was significantly influence student aggregate points in KCSE at the 95% level. It was established that variations in student aggregate points in KCSE were the effects of internal examination administration practices in public day secondary schools that endeavour to establish mechanisms to make students understand the needs of internal examinations. The results also show that student entry behaviour and school attendance influence increase and decrease of points on student aggregate points in KCSE respectively. The study concluded that positive school culture preventing malpractices in internal examinations administration influence positive improvement in students' academic achievement in Kenya Certificate of Secondary Education examination.

RECOMMENDATION

The findings of the study showed that internal examination administration practices was significantly associated with student aggregate points in KCSE at the 95% level. It therefore recommended that public day secondary schools in Busia County should design policies of internal examination administration practices that positively impact on student aggregate points in KCSE. Such policy may include exam administration policy that encourages teachers to help students appreciate and understand the meaning and need of internal examinations.

REFERENCES

- Adow, I. M., Alio, A. A., & Thinguri, R. (2015). An Assessment of the Management of K.C.S.E Examination and Its Influence on Irregularities among Students: A Case of Secondary Schools in Mandera County, Kenya. *Journal of Education and Practice*, 6(28), 15-22.
- Beck, V. (2014). Testing a Model to Predict Online Cheating-Much Ado About Nothing. *Active Learning in Higher Education*, 15(1), 65-75.
- Bowman, C. R., Gulacar, O., & King, D. B. (2014). Predicting Student Success via Online Homework Usage. *Journal of Learning Design*, 7(2), 47-61.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2012a). Algebra for 8th Graders: Evidence on its Effects from 10 North Carolina Districts (NBER Working Paper No. 18649). Cambridge, MA: The National Bureau of Economic Research.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2012b). The aftermath of accelerating algebra: Evidence from a District Policy Initiative. (NBER Working Paper No. 18161). Cambridge, MA: The National Bureau of Economic Research.
- Cohen, J., McCabe, L., Michelli, N. M., & Pickeral, T. (2009). School Climate: Research, Policy, Practice, and Teacher Education. *Teachers College Record*, 111(1), 180-213.
- Fask, A., Englander, F., & Wang, Z. (2014). Do Online Exams Facilitate Cheating? An Experiment Designed To Separate Possible Cheating From The Effect of The Online Test Taking Environment. *Journal of Academic Ethics*, 12(2), 101-112.
- Kuyoro, S., Maminor, G., Kanu, R., & Akande, O. (2016). The Design and Implementation of A Computer Based Testing System 5,6.
- Marilyn, K. S. & Jim, G. (2013). Ex Post Facto Research Design. www.dissertationrecipies.com.
- Mokula, D., & Lovemore, N. (2014). Forms, Factors and Consequences of Cheating In University Examination: Insight from Open and Distance Learning Students; South Africa.
- Muchai, J. (2014). An Investigation into Factors That Contribute To Cheating in Examinations in Technical Institutions in Central Province, Kenya.
- Mwonga, C. M. (2019). Stakeholder's Perceptions of Control Measures Addressing Malpractices on Attainment of Sustainable Credible Examinations in Secondary Schools in Makueni County Kenya: Unpublished Kenyatta University MEd Thesis.
- Nyamwange, C., Onderi, P., & Ondima, P. (2013). Factors Influencing Examination Cheating Among Secondary School Students: A Case of Masaba South District of Kisii County, Kenya.
- Ogunji, J. A. (2011). Examination Management and Examination Malpractice: The Nexus Babcock University, Nigeria.
- Shukla, A. (2019). Continuous Assessment Features and Purpose. Retrieved on 28th August 2021 at 8.00 am at; www.toppr.com/bytes/continuous-assessment-features-and-purpose/
- Tawiah, D. K., Alberta, G. Y., Bossman, F. I., & Snr, D. A. (2015). The Perception and Reasons of Examination Malpractice among Students. *International Journal of Innovative Research and Development*, 4(4).