



# Influence of Examination Setting Practices on the Academic Performance of Public Secondary School in Hargeisa Region, Somaliland

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**Abstract:** Hargeisa region in Somaliland has students' performance at subpar, with low grades reported in national examinations. According to a report by the Somaliland Ministry of Education (2019), out of 8,787 students who took the National Form Four examination, 37% obtained low grades ranging from D+ to E. Furthermore, poor performance was evident in mathematics and science, with no region achieving an average of 35% in math for high school students. Despite these observations, there has been a lack of research examining the relationship between national examination management and students' academic performance. Thus, the study was guided by a research question; What is the influence of examination setting practices on the academic performance of public secondary school in Hargeisa region, Somaliland? The study was guided by the Self-Determination Theory (SDT) and the self-determination theory. The study employed an explanatory sequential research design with a sample of 52 consisting of 5 principals, 45 teachers, 1 Examination Officer and 1 Sub-Region Director of Education. The study employed questionnaires and an interview guide to collect data. The study found a moderate positive level of relationship between examination setting practices and academic performance ( $r=.622$ ). The study found that examination distribution practices influence the academic performance of public secondary schools in Hargeisa region, Somaliland. This was through examinations dispatch and distribution of examinations. The study recommends that school principals in public secondary schools in Hargeisa, Somaliland, employ positive examination setting practices to motivate the candidates towards academic performance.

**Keywords:** Academic Performance, Examination Management, Examination Setting, Hargeisa Region, Public Schools.

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## 1. Introduction

Examinations are utilized as instruments or devices for measurement, employed by educators to precisely determine the extent of learning achieved by their students in relation to a particular attribute or variable. It is the responsibility of the teacher to select the most fitting measurement tool, which will accurately gauge the attribute or variable of interest. In this way, a well-constructed examination will allow the teacher to accurately measure the attribute, which is often learning. In line with this, Anderman (2020) asserts that

assessments have been a crucial component of educational systems all throughout the world since antiquity. Exams serve a number of purposes in the learning process, notwithstanding the effects they have on the curriculum and all other stakeholders in the educational system (Haughbrook, 2020). In other words, the impact on a school's organisational structure was assessed in terms of how the curriculum is implemented, which is influenced by how the schools are run and how exams (both internal and external) are conducted. This includes how these procedures affect how students perform in secondary schools, as well as how exams are set, given out, and marked.

Glaser and Silver (2004) emphasize that different nations around the world use different systems to gauge students' academic performance, attitudes, and the application of various learning outcomes from their respective school systems in a longitudinal study carried out in the United States. The authors also noted that some countries have opted to abandon the common assessments and exams created by teachers that serve as both internal and external benchmarks for success and performance. Individuals' levels of attainment continue to serve as the foundation for examination management practices in light of these circumstances and in order to establish standards and acceptable criteria for adequate attainment for further education, placement, promotion, and job employment (Rode et al., 2016).

In the Netherlands, the conclusion of secondary education is traditionally marked by the administration of examinations which are composed of both national and school-based evaluations across various academic subjects (Beguin & Ehren, 2011). Of particular importance in these assessments is the need to maintain comparability of intra- and inter-year school results. To address this concern, Beguin & Ehren (2011) have noted that various standard examination setting methods are employed in the Netherlands. This observation is congruent with the findings of Bhatti's (2007) longitudinal study conducted in Pakistan, which advocates for greater flexibility in the conduct of examinations, including more options for exam dates to accommodate both schools and students, instead of the fixed dates currently imposed on all examinees.

The final evaluation in Denmark is divided into two parts: an exam at the school level and an exam at the national level. The Ministry of Education, Culture, and Science (2011) has approved the exam syllabus, which specifies the criteria used to evaluate each assessment. The curriculum also specifies the quantity and length of the examinations that make up the national exam. The schools are in charge of deciding what was covered in the school examination. Every year, schools are required to provide the Inspectorate with their own school examination syllabus. This syllabus should indicate the elements of the syllabus that was evaluated, the timing of the evaluations, and the methodology for calculating marks, including the weightage assigned to the tests and the provision for re-evaluation.

In Sub-Saharan African nations, public or external examinations have been a significant factor in the history of modern education (Kellagham & Greaney, 2004). Typically, three major examinations are conducted in most countries, facilitated by an external agency rather than the school, such as a national examinations authority in Anglophone countries or a ministry of education in Francophone countries. These examinations in Africa perform a variety of crucial roles that mirror the social and educational contexts in which they are carried out (Gebrill & Brown, 2014). Primarily, they regulate the varied components of the education system, ensuring that

all schools conform to uniform standards, which was particularly critical during colonial times when most schools were privately managed.

In Hargeisa region, Somaliland, most secondary schools offer Continuous Assessment test (C.A.T) as the measure of competences at the secondary school level. Somaliland Certificate of Secondary Education (SCSE) is an examination that is done at the end of the year as a determining factor to join next level of education depending on the results attained. The examination management, setting, the Somaliland national examination council does distribution. The examination council chooses specific teachers from different schools, both public and private, to set, manage and mark the exams. The teachers involved in all these processes are paid a fixed and specific amount of money after the exercise.

After the marking exercise, the examiner's report is produced for every subject to highlight the strength and the weaknesses of the candidates who sat for the exam and also highlight the quality of the examination and the answers given by the students which helps the teachers. Although examinations may not be an infallible method of ascertaining the level of knowledge and accomplishment, it is plagued by numerous complications, obstacles, and inadequacies. Against this backdrop, the present study aims to scrutinize the correlation between examination management policies and the academic performance of students in public secondary schools located in the Hargeisa region of Somaliland.

Examination is a critical method for assessing and evaluating students' skills, knowledge, and attitudes in various areas of study. It serves as a vital tool for determining learners' mastery of specific knowledge domains. Examination management faces numerous challenges, such as cheating and malpractice, which are prevalent worldwide. Beguin and Ehren (2011) found that mismanagement of examination practices is apparent in both developed and developing countries; however, security regulations and implementation strategies are not universally provided and are often ineffective. Although Beguin and Ehren (2011) highlighted the issue of mismanagement in examination practices, they did not establish a connection between these practices and the academic performance of secondary school students. Their study did not address appropriate question types, optimal distribution practices, or grading systems that could enhance students' performance in termly and end-year examinations.

In the Hargeisa region, students' performance has been subpar, with low grades reported in national examinations. According to a report by the Somaliland Ministry of Education (2019), out of 8,787 students who took the National Form Four examination, 37% obtained low grades ranging from D+ to E. Furthermore, poor performance was evident in mathematics and science, with no region achieving an average of 35% in math for

high school students. Despite these observations, there has been a lack of research examining the relationship between national examination management and students' academic performance. Specifically, the connection between examination setting, distribution, invigilation, marking, and students' performance in end-year examinations remains unexplored. This research gap necessitates a comprehensive study investigating the influence of examination management practices on students' academic performance in public secondary schools in the Hargeisa region, Somaliland. The research question was, What is the influence of examination setting practices on the academic performance of public secondary school in Hargeisa region, Somaliland?

## 2. Literature Review

A good examination must meet certain criteria, including objectivity that is free from scoring subjectivity or scoring biases. Beguin and Ehren (2011) assert that in order to achieve this, the exam tasks must be clearly defined so that both the teacher and student understand the reasons for awarding or withholding a mark. Test developers face varying levels of time and effort required to prepare a test (Rowentry, 2009). Similarly, test takers encounter varying levels of time and effort needed to achieve a desired grade or score on a given test.

Walsh and Betz (2005) carried out a longitudinal study in the state of New Jersey and proposed that the amount of time and effort spent by a test developer in creating a test depends on a number of variables, including the importance of the test, the test taker's proficiency, the format of the test, the class size, the deadline for the test, and the developer's experience. In numerous respects, the test construction process has received significant support. First, a large portion of test creators have experience as students and can therefore adapt or modify test questions from previous exams (Rafique & Mii, 2012). Second, book publishers frequently provide teaching packages, including test banks to university instructors who use their published books for a variety of courses in several nations, such as the United States (Zoeckler, 2007). These test banks, which could include up to 4,000 sample test questions, have passed peer review, time testing, and moderation. In order to create a test, teachers who choose to use these test banks can choose a predetermined number of questions from the bank.

According to Zoeckler's (2007) theory, a test taker's preparation time depends on the frequency, the person who created the test, and the test's weight. The need for comprehensive preparation is minimal when non-standardized examinations are taken into account because they are brief, frequent, and make up a small portion of the test taker's final grade or score. On the other hand, non-standardized examinations that are time-consuming, uncommon, and account for a sizable portion of the test taker's final grade or score demand intensive

preparation. For school administrators, teachers, parents, and/or students in a number of nations and regions, including Belgium (French and Flemish Communities), Estonia (for teachers only), Ireland, Spain, France, Lithuania, Hungary, Austria, Romania, Finland, the United Kingdom (Scotland), and Iceland, Hargreaves (2001) added background questions to the test questions. This practice is primarily connected to tests and exams conducted for monitoring purposes. The information acquired relates to the socioeconomic status of the students, their drive, available supports, or the learning environment (Frery, 2008). The questions for teachers include a variety of relevant subjects, including teaching experience, professional development activities, and teaching strategies. One can determine the variables that affect performance by examining the contextual data gathered, including the schools, teachers, students' backgrounds, and homes.

Jennings and Bush (2006) have shown that the inclusion of identical questions in national examinations varies among countries, as seen in Finland where the extent of this practice differs. In a majority of countries, a particular test is answered by all students with the same set of questions. However, in Ireland, France, Lithuania, and Romania, only some national tests adhere to this practice while other tests may have different questions (Jennings & Bush, 2006). In Sub-Saharan Africa, the questions in national examinations are regularly similar but differ among students taking the test (Vandeyar, 2005). This can be attributed to various reasons such as the need to consider individual learning differences and needs, methodological considerations regarding test analysis and evaluation, or the desire to prevent cheating by both pupils and teachers (Vandeyar, 2005).

Thus, in order to cater to individual learning levels and needs, four countries have implemented varying approaches to adapt their tests. For instance, Nigeria's national examinations, which are based on ICT, are closely tailored to the individual levels of the students taking them, with personalized tests being provided to each pupil at every level (Agbo, 2011). Similarly, in Morocco, students sitting for the 'junior certificate' are given examination papers of different difficulty levels (higher level, ordinary, foundation) and are also offered a choice of questions within individual test papers.

In a study conducted by Waters, Hughes, Forbes, and Wilkinson (2006), the academic performance of medical students in rural and urban clinical settings was explored, with the aim of determining whether the location of clinical training had any impact on academic outcomes. The researchers assessed the students' academic performance using various measures, including examination scores and overall academic grades. Their findings indicated that there was no significant difference in the academic performance of students in rural and urban clinical settings. This suggests that the location of clinical training, whether rural or urban, does not have a

substantial effect on medical students' academic outcomes.

In Botswana, a longitudinal study was conducted by Tabulawa (2012), in which it was posited that the national curriculum assessment at the age of 14 for mathematics consists of four distinct tiers (understanding mathematics concepts, application of the concepts, development of high order thinking skills (HOTS) and application of the skills), each assessing varying levels of attainment. The teacher determines the most appropriate tier for a child's abilities. Science, on the other hand, has two tiers, each assessing different levels, and the teacher similarly assesses the most appropriate tier for the child. Tests are also given in Kenya and Uganda at various levels (A to F), which correspond to defined attainment outcomes for the majority of students at various stages of schooling (Afolabi, 2010). The National Assessment Bank also offers many equal exams for each level, guaranteeing that students taking examinations at the same level in other schools are not always providing the same answers (Afolabi, 2010). With this setup, there is less chance that students from one school may share exam information with students from another school. The questions for national exams are occasionally changed for methodological reasons.

In the Hargeisa region, it is not mandatory for all students to answer identical questions, owing to the statistical techniques implemented. In the evaluation of schools in Somaliland, a matrix sampling approach is adopted, whereby a set of common questions is administered to all secondary school students, along with supplementary distinct questions. The distribution of assignments among the sample is intended to prevent overtaxing or stressing any pupils while ensuring acceptable statistical coverage of an appropriate spectrum of knowledge and skills. As a result, different sets of questions are given to different pupils who take the "national studies of student attainment" test. The examinations are designed so that, within the same topic area, there is no difference in the degree of difficulty between them. The usefulness of examination settings and test preparation techniques in relation to the academic performance of secondary school pupils in termly and end-of-year examinations, however, has not yet been clearly verified by substantial empirical research investigations. Additionally, the studies have not identified the types of questions, such as multiple-choice or essays, which enhance students' academic performance. These are research and knowledge gaps that this study aims to address.

The literature review on examination setting practices in educational systems worldwide has revealed several key insights; however, it also presents some noticeable gaps. The literature effectively explores the general criteria for effective examination setting, including objectivity, appropriateness, and the variability of time and effort required for both test construction and preparation from the perspectives of test developers and test takers (Beguin & Ehren, 2011; Walsh & Betz, 2005; Rafique &

Mišić, 2012; Zoeckler, 2007). Furthermore, the literature provides valuable insights into the practicalities of test construction, such as the use of test banks, and the factors influencing the time needed for test preparation.

However, the literature appears to be predominantly focused on developed countries such as the United States, Finland, and Ireland, leaving a gap in the understanding of examination setting practices in developing countries or regions like Hargeisa, Somaliland. The literature identifies variability in how different countries handle the uniformity of examination questions (Jennings & Bush, 2006; Vandeyar, 2005). While some countries ensure all students taking a particular test answer the same questions, others introduce variability to accommodate individual learning differences and needs. This practice can be seen in countries like Nigeria and Morocco (Agbo, 2011). However, the literature does not adequately explore how this variability in examination setting might impact the academic performance of students, leaving a research gap.

The literature presents an interesting approach to examination setting, where different tests or questions are set for different learning levels and needs, as practiced in Botswana, Kenya, and Uganda (Tabulawa, 2012; Afolabi, 2010). This adaptive approach to examination setting is an area of interest; however, the literature does not sufficiently examine the influence of such practices on academic performance. Therefore, this study aimed to fill these research gaps by examining the influence of examination setting practices on the academic performance of public secondary school students in Hargeisa, Somaliland, a region currently underrepresented in the literature. It also explored the impact of variable and adaptive examination setting on student performance, areas which existing research has not sufficiently addressed.

### 3. Methodology

The study was guided by the Systems Theory and Self-Determination Theory (SDT). The study employed an explanatory sequential research design, combining both quantitative and qualitative research methods. This design enabled a comprehensive understanding of the research topic by combining both quantitative and qualitative research methods within a single study (Creswell, 2009). The study had a target population of 412 subjects and used the theorem to sample 52 consisting of 5 principals, 45 teachers, 1 Examination Officer and 1 Sub-Region Director of Education. The study employed questionnaires and interview guide to collect data from the principals and teachers, and Examination Officer and 1 Sub-Region Director of Education respectively. The research tools were piloted in one school in Bardass, Hargeisa region. Test re-test method was used to collect pilot data which was used to determine the consistency through Pearson moment correlation coefficient. A threshold value of  $r=0.7$  was considered sufficient to infer reliability of the research

tools. The educational administration experts from the school of education at Mount Kenya University judged the content validity of the tools whereas the peers in the school assessed the face validity. Qualitative data was analyzed thematically in line with the study objectives, while basic quantitative data was analyzed using descriptive statistics and correlation analysis in Statistical Packages for Social Science (SPSS version 24).

## 4. Results and Discussion

The study examined the influence of examination setting practices on the academic performance of public schools. Using the questionnaire, the respondents were asked to checklist the areas of examination practices that they were most involved in. The findings were presented using Table 1.

**Table 1: Most involved examination practices**

	Frequency	Percent
Appointment of setters	11	9.9
Selection of questions	28	25.2
Designing examination format	50	45
Moderation of questions	19	17.1
Preparation of marking schemes	3	2.7
Total	111	100

Table 1 shows that the largest portion of the respondents 50(45%) were involved designing of examination formats. This was followed by a few 28(25.2%) who were involved in selection of examination questions. The table also shows various portions of the study participants being involved in other practices of the examination process in the public secondary schools in Somaliland. The involvement in appointment of setters was at 11(9.9%), moderation at 19(17.1%), and preparation of marking schemes lowest at 3(2.7%).

Through the interviews with the headteachers, it was noted that teacher involvement in examination practices was key and, in some cases, came as a package of responsibilities for them. One school administrator posited.

*It is the work of the individual teacher to ensure that their*

*learners have quality examinations. This covers from the setting, to moderation, to selection of questions and even making the marking schemes. The teachers understand about this assignment from their contract letters as a scope of their responsibilities [Key Informant 03, Male head teacher].*

In a different question, the teachers were asked to rate the extent of agreement with statements on the relationship between examination setting practices and academic performance of students in secondary schools. The collected data was analyzed descriptively using frequencies and percentages and the results presented using Table 2.

**Table 2: Relationship between examination setting practices and academic performance**

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
The selection of examination questions significantly contributes to the enhancement of students' performance in end-of-year examinations	F	28	23	40	16	4	111
	%	25.2	20.7	36	14.4	3.6	100
Questions are selected to enhance the performance of students in end-year examinations	F	18	31	37	16	9	111
	%	16.2	27.9	33.3	14.4	8.1	100
The design of the examination format plays a crucial role in enhancing students' performance in end-of-year examinations	F	32	20	36	17	6	111
	%	28.8	18	32.4	15.3	5.4	100
Moderating examinations effectively enhances students' performance in end-of-year examinations	F	22	26	29	15	19	111
	%	19.8	23.4	26.1	13.5	17.1	100
The preparation of marking schemes enables students to perform better in end-of-year examinations	F	19	23	38	24	7	111
	%	17.1	20.7	34.2	21.6	6.3	100
The design and format of the examination papers limits the understanding and answering of the questions	F	26	21	33	17	14	111
	%	23.4	18.9	29.7	15.3	12.6	100

Table 2 shows that the largest proportion of the respondents rated the first statement, “The selection of examination questions significantly contributes to the enhancement of students' performance in end-of-year examinations” highest at neutral 40(36%). There was a portion of 28(25.2%) who strongly disagreed with the statement with another 23(20.7%) disagreeing. This implies that despite different rating of levels of agreement with the statement, most of the respondents did not support that the questions selection contributed to enhancement of students, academic performance. This was, however, thought and rated as a contribution by a few of the respondents 4(3.6%) who strongly agreed and 16(14.4%) who agreed with the statement.

Through the interview findings with the school heads, it was noted that the selection of questions did not count in academic performance. One head teacher posited;

*We don't care who played the role in selection of the questions. And that is why, in our school, we randomize the task of question pooling and selection. By this, we ensure that there is no biasness or any loose way of examination quality degradation. Any question should be by chance reaching the learners to be*

*attempted* [Key Informant 01, Female head teacher].

Table 2 also shows that the largest portion of the study respondents were neutral with the statement “Questions are selected to enhance the performance of students in end-year examinations” at 33% with another relatively large portion 27.9% rating it at disagrees. However, there were fewest of the respondents who rated the agreed and strongly agreed that questions are selected to enhance the performance of students in end-year examinations at 9(8%) and 10(8.1%) respectively.

The table also shows that the statements on the design of the examination format plays a crucial role in enhancing students' performance in end-of-year examinations and moderating examinations effectively enhances students' performance in end-of-year examinations were rated by the largest percentage of the teachers 20(18%) and 36(32.4%) at neutral.

The trend persists for statements on “the preparation of marking schemes enables students to perform better in end-of-year examinations” and “the design and format of the examination papers limits the understanding and answering of the questions” rated highest at neutral at 38(34.2%) and 33(29.7%) respectively.



**Correlation analysis between examination setting practices and academic performance.**

The collected data was used to conduct a correlation analysis and the findings presented using Table 3.

**Table 3: Correlation analysis between examination setting practices and academic performance**

		Average of examination setting practices scores	Average of academic performance scores
Average of examination setting practices scores	Pearson Correlation	1	.622
	Sig. (2-tailed)		.819
	N	111	111
Average of academic performance scores	Pearson Correlation	.622	1
	Sig. (2-tailed)	.819	
	N	111	111

Table 3 shows a Pearson correlation coefficient = .622 which is a moderate positive level of relationship between examination setting practices and academic performance.

**Discussions**

The findings reflect the need for involvement in examination practices among the teachers as opined by Rowentry (2009) that test developers face varying levels of time and effort required to prepare a test. Similarly, other authors like Rafique and Mii (2012) posit that test creators develop some experience as students and can therefore adapt or modify test questions from previous exams. On the other hand, Jennings and Bush (2006) stated that the inclusion of identical questions in national examinations varies among countries, as seen in Finland where the extent of this practice differs.

Through the interviews with the headteachers, it was noted that teacher involvement in examination practices was key, and in some cases, it came as a package of responsibilities for them. From the above findings, it is noted that teachers have a great responsibility in involvement in examination practices. This is almost an unavoidable task for the teachers as examination process is embedded in teaching and learning as an assessment stage.

The study found that the selection of questions did not count in academic performance. The findings depict the case in literature pointing out the criteria set by different schools and institutions in examination handling. For instance, Beguin and Ehren (2011) and Rafique and Mišić (2012) talk about the exploration of the general criteria for effective examination setting, including objectivity, appropriateness, and the variability of time and effort required for both test construction and preparation from the perspectives of test developers and test takers.

The study found that there were differences in level of agreement on whether the questions that were selected enhanced the performance of students in end-year examinations in public secondary schools in Somaliland. The findings imply that the emphasis on checking the

examination setting procedures were falling below the expectations. However, there are differentiated ratings that reflect emphasis on the procedures in some schools. For instance, there was 12% of the teachers who strongly agreed that the design and format of the examination papers limits the understanding and answering of the questions. The findings show that there were varied views about the influence of the examination setting practices on academic performance. The differences can be related to existing literature in Sub-Saharan Africa where the questions in national examinations are regularly similar but differ among students taking the test (Vandeyar, 2005). These are attributed to various reasons such as the need to consider individual learning differences and needs, methodological considerations regarding test analysis and evaluation, or the desire to prevent cheating by both pupils and teachers (Vandeyar, 2005).

The study found a moderate positive correlation between examination setting practices and academic performance (R=.622). This implies that a change in examination setting practices would change academic performance of the public secondary schools in Hargeisa region, Somaliland. However, the significance level =.819 which is greater than the critical p-value =0.05. thus, the change in the academic performance of the schools would not be statistically significant.

**5. Conclusion and Recommendations**

**5.1 Conclusion**

The study found a moderate positive level of relationship between examination setting practices and academic performance (r=.622). The study found that examination distribution practices influence the academic performance of public secondary schools in Hargeisa region, Somaliland. This was through examinations dispatch and distribution of examinations.

**5.2 Recommendations**

The study recommends that school principals in public secondary schools in Hargeisa, Somaliland; Employ positive examination setting practices to motivate the

candidates towards academic performance. Moreover, the Ministry of Education through reviews the examination invigilation practices should expunge the negative ones and employ the motivating ones like recruitment of supervisors and invigilator and planning the number of invigilators per examination center.

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