

Effect of Pedagogical Processes on Academic Performance of Pupils in Public Primary Schools in Hargeisa District

Gulled M. Yasin

University of Hargeisa, School of Graduate Studies

Contact: fiqi215@gmail.com

Abstract

This study investigated effect of pedagogical processes of teachers on the academic performance of pupils in primary schools in Hargeisa districts, Somaliland. Pedagogical process was taken as all the conditions and circumstances that affect the pupils physically, intellectually and educationally. It described knowledge to teaching methods, classroom management and classroom assessment methods. The study arose from the declining performance of pupils in SCPE examination. The deteriorating academic performance was well demonstrated from increase number of failures in SCPE. In 2014-2018, percentage failure increased by 16%, reflecting an increase of 3.2% per year. Despite the declining performance as failure rates increased, the effect of pedagogical processes on academic performance has not been isolated. Based on cross sectional survey research design, on a sample of 160 teachers, the study found out that, pedagogical processes, $F_0 = 43.062 > F(2,157) = 3.06$; $p = .000$, have a significant effect on the academic performance of pupils in public primary schools in Hargeisa District. The study has found that pedagogical process affects significantly to the academic performance of pupils in public primary schools in Hargeisa District. Therefore, the researcher recommends the Ministry of Education and Science to improve the education of the teacher, enhance the training programs that ameliorate the teachers' academic background. Last and most importantly, the researcher recommends Somaliland Teacher Training Institute to hire qualified trainers to train teachers professionally. Likewise, the researcher recommends other studies that affect teacher quality to be investigated – otherwise the gap will always be there.

Key words: *pedagogical processes, teaching methods, classroom assessment, classroom management, academic performance*

Introduction

In developing countries, academic achievement is seen as one of the key vehicles for stimulating economic growth and improving living standards (World Bank, 2003). 30 percent of primary school students are now unable to complete the exam (UNESCO, 2008).

After the International Student Assessment Exams were published, academic performance in Northern Europe was low (Program for International Student Assessment, 2012).

Nonetheless, Paulo (2011) points out that the academic performance of pupils in Portugal has declined. The United States of America has reiterated the need to improve the poor academic achievement of students in science and mathematics after a series of hindrances on pupils' performance (Pew Research Center, 2017).

In Latin America, the academic performance is getting better after prolonged period of poor academic performance of pupils (Program for International Student Assessment, 2015). On the other hand, political chaos of Venezuela has exacerbated the academic performance of students. Nevertheless, despite the advances obtained in previous decades, Brazil still has serious problems with the academic performance of pupils at public primary schools (Pesquisa, 1980). The plague of poor academic performance has also been attributed to Saudi Arabia (Hammam, 2012). Moreover, Kuwait complains about the increase of poor academic performance of pupils (Secretariat General for Planning, 2018). In Oman, the academic performance has been poor (Alami, 2016).

More so, the academic performance of Nigerian public primary schools has been poor (Jacob, 2014) and there has been a general concern on the poor academic performance of West Africa countries for a long period of time (Asikhia, 2010). Furthermore, Botswana has witnessed a decline of the academic performance of students since 2010 (MolokoMphale, 2010).

In addition, the government of Uganda has experienced poor academic performance to students at primary schools (Nabuzale, 2018). With the dedication to pursue quality education, results of Kenya Certificate of Primary Education examinations have shown decline in the academic performance of students (Githinji, 2012). Despite the increase of the enrollment of students in Ethiopia, the performance of pupils has been deteriorating over the years (Tadaze, 2010). Furthermore, Nghambi (2013) portrays that the academic performance of Tanzania is getting worse if not tackled sooner.

The government of Somalia has been struggling with poor academic performance of pupils particularly those in the war-torn areas (Somali Heritage Think Tank, 2007).

In Somaliland, student performance has been poor for the last 5 years (Somaliland National Exams Office, 2018).

The pedagogical processes of teacher have been related to the academic performance of pupils. The discipline that deals with teaching theory and practice is pedagogy (Fullan, 2000). By taking into account theories of learning, understandings of students and their needs, and the backgrounds and desires of individual students, it informs teaching methods, teacher behavior, and teacher judgments and decisions (Dictionary). Pedagogy refers more broadly to the theory

Effect of Pedagogical Processes on Academic Performance of Pupils in Public Primary Schools in Hargeisa District

and practice of education, and how this influences the growth of learners (Li, 2012). It is also related to the knowledge of teaching methods and classroom assessment (Voss, Kunter&Baumert, 2011). The method of teaching is to have a command of different ways of imparting knowledge to learners by knowing when and how to apply each method (Guerriero, 2012). Classroom evaluation refers to knowledge of various ways and aims of formative and summative evaluations, knowledge of how the motivation of students is influenced by different frames of reference (e.g. social, person, criterion-based) (Organization for Economic Co-operation and Growth, 2015).

Pedagogical processes have been said to influence students' academic performance. For example, a study by Ganyaupfu (2013) explored the efficacy of pedagogical processes in the academic achievement of students at PC Training and Business College in South Africa. For the research, a sample of 109 undergraduate students from the Department of Economic and Business Sciences of the College was used. Students' evaluation test scores were extracted from the internal class test prepared by the instructor using the inferential statistics course. The differential efficacy of the three pedagogical mechanisms on student academic performance was evaluated using the univariate ANOVA methodology based on the General Linear Model. Significant variations in the success of the three pedagogical methods are demonstrated by the F (2, 106) statistics (= 10.125; $p < 0.05$) and Tukey HSD post-hoc performance. The average results indicate that the most successful pedagogical process was the teacher-student interactive system.

More so, a study carried out by Cardoso (2015), the relationship between pedagogical processes for teachers and academic success for students has been examined. A comprehensive study was performed involving a representative group of students attending secondary schools in the central region of Portugal in 1986. The findings obtained through the structural model showed that teacher pedagogy affected the academic performance of students substantially and positively.

Furthermore, a study by Louis and Marks (1997) the influence of pedagogical processes on the performance of school students who have at least four years of experience in some form of decentralized or school-based management has been examined. The knowledge was gathered to analyze the influence of pedagogy on success. A sample of 24 schools, 24 primary, middle and high school restructuring schools and 8 schools at each grade level, were drawn from the accessible population. The bulk of urban schools are served by 16 states and 22 school districts. Data sources included pedagogical standard scores and student academic performance reviews, and case studies based on interviews and observations; hierarchical linear modeling (HLM) was the primary method of study. The results suggested significant positive relationship between pedagogical processes and academic performance of students. Likewise, a study carried out by Abrantes, Seabra and Lages (2006) investigated the effect of pedagogy on the achievement of students. The study drew a sample of 1000 students and was subjected to different pedagogical processes. The study revealed that that students' academic performance depends directly on the

pedagogy of the teacher. The results of this study suggested teachers to use effective pedagogical processes.

The evidence states that there is an alarming concern on the worsening performance of pupils. Between 2014 and 2018, the number of failures increased by 16 percent in Hargeisa. The proportion of failures was 36% in 2014, 38% in 2015, 40% in 2016, 52.2% in 2017 and 51.97% in 2018. On average, student performance in primary schools in Hargeisa has fallen by 16 percent over the last five years. This dictates the conduction of this research paper in order to investigate if pedagogy of the teacher relates to the performance of the student.

Methodology

The study was conducted in Hargeisa district, Somaliland. Hargeisa district since Hargeisa accommodates 80% of the pupils with the low academic performance as indicated by National Exams Report in 2018. This study was carried out through a cross sectional survey design. This survey is a descriptive research design which examines phenomena it is without the manipulation of variables (Oso, 2016). A questionnaire was developed and administered to 160 public primary school teachers and their students. The schools under investigation were randomly selected so that to increase the representation of the sample to the population. Since three means were compared – teachers with high pedagogical knowledge, teachers with moderate pedagogical knowledge and teachers with low pedagogical knowledge, ANOVA was used to explore where this difference exists. Ethical considerations were highly practiced and an informed consent was signed from each participant.

Results

This study investigated the effect of pedagogical processes on academic performance of pupils in primary schools in Hargeisa district. The pedagogical processes were operationalized into knowledge to teaching methods and classroom assessment. Respondents reacted several items on each variable and the responses were used to determine pedagogical processes of the teachers in public primary schools.

Table 1
Descriptive Statistics of Pedagogical Processes and Academic Performance

Pedagogical Process	N	Average Performance	S	ε
Low	44	46.55	15.698	2.36
Moderate	93	46.70	10.6	1.10
High	23	71.74	8.88	1.8
Total	160	50.20	14.87	1.17

Note. N = Sample, S = Standard deviation, ε = standard error.

Effect of Pedagogical Processes on Academic Performance of Pupils in Public Primary Schools in Hargeisa District

Table 1 shows the descriptive statistics of academic performance of pupils in primary schools in Hargeisa district against different pedagogical processes. It indicates that the average performance of students taught by high pedagogical processes (71.74%, $S = 8.88$) was higher than the performance of the students taught by teacher with moderate pedagogical process (46.70%, $S = 10.6$) and the performance of pupils with low pedagogical process (46.55%, $S = 15.69$). Nevertheless, performance of pupils having teachers with high pedagogical processes were higher than the performance of pupils taught by teachers with low and moderate pedagogical processes (71.74% $S = 8.88$). This implied to the fact that academic performance of pupils boosts with an increase of teachers' pedagogical processes. The results demarcate that teacher pedagogical processes affect academic performance of pupils in public primary schools in Hargeisa. As a result, the higher pedagogical processes of the teacher, the better the academic performance of pupils.

Hypothesis states that pedagogical process does not affect the academic performance of pupils in public primary schools in Hargeisa.

There is no significant difference in the average performance of students taught under teachers with Low, Moderate and High pedagogical processes

$$H_{02}: PDP_L = PDF_M = PDF_H$$

$$H_{A2}: PDP_L \neq PDF_M \neq PDF_H$$

Where PDP_L is low pedagogical process; PDP_M is moderate pedagogical process and PDP_H stands for high pedagogical process.

The results for ANOVA are shown in Table 2.

Table 2
F-Statistics of Performance of Pupils with Pedagogical Processes

Source of difference	Sums of Squares	Df	Mean square	F	P
Between	12461.977	2	6230.988	43.062	.000
Within	22717.623	157	144.698		
Total	35179.600	159			

Note. $F(2,157) = 3.06$

Table 2 presents the ANOVA statistics of the performance of pupils taught by teachers with low, moderate and high pedagogical processes. The results indicate that there is a significant difference in the performance of pupils taught by teachers with low, moderate and high pedagogical processes, $F_0 = 43.062 > F(2,157) = 3.06$; $p = .000$. This led to the rejection of the null hypothesis. It shows that there is a significant difference in the performance of pupils taught by teachers with low, moderate and high pedagogical processes. The study, therefore, established that teacher pedagogical process affects academic performance of pupils in public primary schools in Hargeisa district. The higher the pedagogical process of the teacher, the higher the performance of the pupils.

The LSD Post-hoc produced a significant difference between the performance of students with teachers of low and high pedagogical process, ($I-J = 25.194, P = .000$) and, these with moderate and high teacher pedagogical process ($I-J = 25.137, P = .002$). Therefore, teachers with high pedagogical process (71.74%, $S = 8.88$) have higher performance than teachers with low pedagogical process (46.55%, $S = 15.69$) and moderate pedagogical process teachers (46.70%, $S = 10.6$). There is no difference between the teachers with low and moderate pedagogical processes.

The eta-square returned an average value of $\eta^2 = 35.4\%$. Therefore, pedagogical process of the teacher accounts for 35.4% of the variance in academic performance of pupils in public primary schools in Hargeisa. The rest 64.6% are due to factors not investigated here, and errors in measurements. Academic performance can be affected by up to 35.4% through manipulation of pedagogical process.

Discussion

The study unveiled that pedagogical has a significant effect on the academic performance of pupils in public primary schools in Hargeisa District Pedagogical process affects the academic performance of the pupils, $F_0 = 43.062 > F(2,157) = 3.06; p = .000$. This finding shows that pedagogical process accounts for the student performance. This means that the teachers' pedagogical process contributes to the academic performance of the pupils. In support of this, Cardoso (2015) stated that pedagogical process has a significant relationship with the academic performance of students. Also, Louis and Marks (1997) described that teachers with good knowledge to pedagogy tend to garner students with high academic performance. Further, Abrantes, Seabra and Lages (2006) pointed out that the teaching methods of teachers and classroom assessment significantly affect the performance of pupils.

This finding compares with the study of Ganyaupfu (2013) who investigated the effectiveness of pedagogical process against the performance of students ($F(2, 106)$ statistic ($= 10.125; p < 0.05$) and the Tukey HSD post-hoc results indicate significant differences on the effectiveness of the three pedagogical processes with previously found findings. The study is also in line with Organization for Economic Co-operation and Development (2015) study that portrayed that pedagogy of the teacher significantly contributes to the academic performance of the pupils. The results indicate that pedagogical process is highly associated with the performance of pupils.

RECOMMENDATIONS

Based on the findings, the researcher has reported general and specific recommendations. Foremost, the study recommends that Ministry of Education and Science, and Ministry of Labor and Social Affairs to create awareness programs to enhance the training programs for teachers and to improve the quality of the newly opened Teacher Training Institute in Hargeisa. This will ensure rapid improvement on the academic performance.

Effect of Pedagogical Processes on Academic Performance of Pupils in Public Primary Schools in Hargeisa District

Further, the study recommends Ministry of Education to promote Professional Development opportunities concerning pedagogy courses in order to define the metrics and standards of teachers as to achieve higher academic performance. As this study focused on primary, the researcher recommends other studies of teacher quality and academic performance in higher levels of education because without this information poor performance could continue unchanged. Similarly, the researcher recommends investigating factors that affect students' performance but not investigated here.

REFERENCES

1. Abrantes, J.L., Seabra, C., & Lages, L.F. (2007). Pedagogical affect, student interest, and learning performance. *Journal of Business Research*, 60, 960-964.
2. Darling-Hammond, L. (2000). Teacher quality and student achievement. *Education policy analysis archives*, 8, 1.
3. Elvis Munyaradzi, Ganyaupfu. (2013). Teaching Methods and Students' Academic Performance. 2319-7722.
4. Even, R. (1993). Subject-matter knowledge and pedagogical content knowledge: Prospective secondary teachers and the function concept. *Journal for research in mathematics education*, 94-116.
5. Marks, H. M., & Louis, K. S. (1997). Does Teacher Empowerment Affect the Classroom? The Implications of Teacher Empowerment for Instructional Practice and Student Academic Performance. *Educational Evaluation and Policy Analysis*, 19(3), 245–275.
6. Oso, W.Y. (2013). *Principles and practice of educational research*. Borama, Somaliland: Barkhadle Printing Press.
7. Trigo Araújo, Pedro & Cardoso, Ana & Fidalgo, Susana. (2016). Leadership and Pedagogical Interaction as Predictors of Learning Outcomes in Physical Education, 55-64.
8. Zuzovsky, R. (2009). Teachers' qualifications and their impact on student achievement: Findings from TIMSS 2003 data for Israel. *IERI Monograph Series. Issues and Methodologies in Large-Scale Assessments*, 2, 37-62.