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INFLUENCE OF DEMOGRAPHIC FACTORS ON ACADEMIC PERFORMANCE AMONG PRIMARY TEACHER TRAINEES - A CASE STUDY OF MACHAKOS TEACHERS COLLEGE

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A B S T R A C T

This study was aimed at establishing the influence of demographic factors of age, gender and Kenya Certificate of Secondary Education (KCSE) entry grade on students' academic achievement among primary teacher trainees. 312 first year students were included in the research and were placed in structured groups based on the academic predictors and were guided to study three subjects –Integrated Science, Christian Religious Education and Education /professional studies during their first term of admission. Their end-term examination test scores for the three pilot subjects were computed and compared to the demographic factors. Pearson product correlation and univariate analysis of variance were used to establish the inferential statistics . The study recorded no significant relationship between students Kenya Certificate of Secondary Education entry grade and their performance ($r = 0.232$, $P > 0.05$). Older students (30-39 years) performed slightly better than middle aged, 23-25 years and the younger students,19-21 years. The academic performance in various age brackets was however not significant ($F = 0.11$, $P = 0.897$, $P > 0.05$). Groups of male students scored lower than the groups of female students. However, gender had no significant relationship in the students' performance ($r = 0.168$, $P > 0.05$). The findings reveal that the academic predictors did not have a significant influence on the students' performance. It is suggested that the study can be extended to sister colleges and the scope of the subjects expanded in order to affirm or refute the result.

Keywords: age, gender, KCSE grade, academic performance, teacher trainee.

INTRODUCTION

One of the key components of the Government of Kenya's approach to the provision of Education for All (EFA) is through provision of quality primary teacher education (GOK, 2007). Kenya's Vision 2030 underscores the importance of quality performance in education in laying a firm base for skills development; innovation and enabling the country attain a competitive edge and poverty reduction. Academic performance is viewed as the level of achievement in a particular field of study where higher scores indicate better academic performance (Egbule, 2004). This concept of academic performance has become a source of concern especially in the wake of the declining standards of education. The decline is largely attributed to the many school and non-school related demands and responsibilities (Ukpong, 2007). Educators have tried to offer solutions to this problem with numerous researchers and experts attempting to determine what factors influence student performance in academic environments and many of these focusing on performance in the college environment. While certain factors have been found to be influential, researchers continue to pursue additional research efforts for clarity as personal and environmental variables make it difficult to determine which factors are more likely to affect students in general. Suggestions have been provided on how socio-psychological variables such as self-esteem, test anxiety, locus of control, work load and tasks could foster academic performance among students (Adepoju, 1999).

Age is similarly considered an independent variable that may likely affect academic performance among the trainees. Cognitive development and maturity which are associated with age are necessary for a worthwhile performance of students. Age of the individual as it increases, usually affects the various developmental stages

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including the area of performance (Ukueze, 2007). It is therefore necessary to examine the extent to which age affects the academic performance of teacher trainees. Gender relates to the difference in sex- either male or female and how this quality affects their dispositions and perception towards life and academic activities (Okoh, 2007). There is need to examine if there is a significant difference between male and female trainees as reflected in their academic performance. The Kenya Certificate of Secondary Education (KCSE) grades are known to mirror on the students' intellectual ability where better grades reflect on high academic achievers. Such grades are considered very strong determinants of performance and have implications for admissions policies and attempts to determine academic outcomes (Guney, 2009). The present study examines how these variables impact on the academic performance among primary teacher trainees.

PURPOSE OF THE STUDY

The purpose of the study was to determine if student demographic factors of age, gender and their Kenya Certificate of Secondary Education (KCSE) grades have a significant relationship with their academic performance in the various subjects in the Primary Teacher Education (PTE) curriculum.

RESEARCH QUESTIONS

1. Do the students Kenya Certificate of Secondary Education entry grades into primary teacher training influence their academic achievement?
2. What is the relationship between the students' age and their academic performance?
3. How does the students' gender influence their academic achievement?

RESEARCH HYPOTHESIS

H_o: Students KCSE college entry grade, age and gender have no significant relationship with their academic performance in the Primary Teacher Education curriculum.

METHODS

Research design: The research employed non-experimental type hence used expo-factor design.

Population and Sample: The target population for the study comprised of first year students enrolled for a two year course for the academic year 2013/2014 in a teacher training college in Machakos County, Kenya. Three hundred and twelve (312) students admitted in year one constituted the study sample. One fifty nine (159) females and one fifty three (153) males. Purposive sampling was employed to group the students to study collaboratively based on the variables of gender, age and their college entry grades. The students' demographic data was obtained from records in the admission unit of the college. The study took into account three subjects out of the eleven subjects' studied in the Primary Teacher Education (PTE) curriculum (27%) which included Integrated Science, Education and Christian Religious Education drawn from three of the six academic departments.

Data collection and analysis: The students test scores for the three subjects end term examination were computed and compared based on their KCSE grades. Test scores for the students were also compared based on the other variables of age and gender. The data was analyzed using descriptive statistics such as mean and standard deviation. The statistical package for social sciences (SPSS) computer programme was used for analysis. Inferential statistics employed analysis of variance (ANOVA) to determine the variations in the test scores of the study population while Pearson correlation coefficient was used to establish the relationship between performance and the variables investigated. The probability value was tested at 95% confidence interval where, $P \leq 0.05$ was considered significant. The probability value was used to make the statistical and the research decisions.

RESULTS

Research Question 1: Do the students KCSE entry grades into teacher training influence their academic achievement?

Table 1. Students mean score per grade per subject.

Study subject	KCSE Grade cohort	Mean test score
Integrated Science	C+	29
	C	26
CRE	C+	35.67
	C	33.8
Education	C+	34.14
	C	31.0

Performance of the students who had scored KCSE grade C+ (mean 32.95 ± 2.02) was slightly higher than that of those who had scored grade C (Mean 30.267 ±2.28). The difference was however not significant ($r = 0.232$, $P > 0.05$). The findings showed no significant relationship between the students' entry grade and the students' performance in the college examination. This indicated that the students' entry grade into the teacher training college did not influence the mean score obtained in the test subjects.

Research Question 2: What is the relationship between the students age and their academic performance?

Table 2. Performance of the students of different age groups in the three subjects.

Study subject	age group (years)	Mean test score
Integrated Science	30-39	26.5
	22-25	26.2
	19-21	26.3
r-value 0.655	P-value 0.546 (P>0.05)	
CRE	30-39	34.83
	22-25	32.67
	19-21	26.30
r-value 0.381	p-value 0.751 (P>0.05)	
Education	30-39	31.33
	22-25	29.67
	19-21	29.00
r-value 0.971	P-value 0.153 (P>0.05)	

The findings indicated no significant difference in the performance of the students in the various age brackets (F = 0.11, df = 2, P = 0.897, P > 0.05) across the subjects. However, although age had no statistically significant effect on the student mean score, it was observed that, older students (30 – 39 years) performed slightly better than middle aged students (23-25 years) and the younger students (19-21 years). The research also established no significant relationship in the students' age and their performance in the specific subjects. Generally age did not influence performance.

Research Question 3: How does the students' gender influence their academic performance?

Table 3. Mean score of the males and females in the study subjects.

Gender	Study subject	Mean test score
Male	Integrated science	26
	CRE	34
	Education	31
Mean score for males: 30.333± 2.33		
Females	Integrated science	28
	CRE	34
	Education	32
Mean score for females: 31.333± 1.76		

The relationship between gender and the students' performance was not statistically significant (r = 0.168, P> 0.05). This indicated that gender did not impact on the academic achievement. However, it was observed that the male students scored lower than the female students.

DISCUSSION

Student performance is naturally considered a critical aspect for many educationists and many researchers have looked at specific factors particularly affecting students' academic performance to determine those with major impact on learner performance. Learning institutions including primary teacher training colleges need to address this issue and focus on improving the quality of students which will have a positive impact on society. Kaighodi and Allen (2008) focused on factors potentially influencing students' performance among business students. They targeted gender, age and other demographic and academic variables. They found that student performance is strongly correlated with demographics, but the strongest predictors of overall academic success are the grades students receive in courses taken earlier. Their study also confirmed that demographic variables can be influential, as traits such as age and gender had been shown to be correlated to academic success. The inclusion of the variable GCSE (General Certificate of Secondary Education) grades are recommended to be considered as very strong determinants of performance, having implications for admissions policies and determining academic outcomes (Guney, 2009). This study however did not strongly support this finding as the performance was more or less the same regardless of the students' entry grade. Periodical monitoring of student achievements and change of policies is required such as changing entry requirements (Guney, 2009).

There is some empirical evidence that shows the impact of gender on the students' academic performance (Gammie et al. 2003). Females have been confirmed to outperform males in Maths and English courses (Cullen et al, (2004). The present study is in line with these findings. However, although female students slightly outperformed their male counterparts the difference was statistically insignificant. An indication that gender did not influence academic achievement. Allen (2005) and Sheard (2009) investigated the relationship between male and female students' achievements. Both studies found that performance is associated with variables such as gender. The association of some factors such as gender and age with the student General Point Average (GPA) were examined and both factors were found to play a significant role in determining students GPA (Al-Mutairi, 2011). Garkaz et al, 2011 tested student gender in The Islamic Azad University and concluded that female students have better academic performance than male students. These analyses have reported a significant correlation between gender and academic performance. However, a previous academic study indicated that there is no significant impact of gender on student academic performance (Lipe, 1989). There is also strong evidence that gender is a statistically insignificant factor that negatively affects students' success (Laband and Piette, 1995).

Cohn (1972), Simpson and Sumrall (1979) conducted studies about the link between the students age and academic performance. They found that mature students achieve higher grades than youthful students do. This result demonstrates a positive relationship between students' age and their grades. However, this is inconsisted with some other studies which reveal that grades earned by young students are higher than mature students (Lane and Porch, 2002; Diaz, 2003). The fact that mature students have other responsibilities than study and that may lead to poor performance comparing with young students who concern about their study only. The current study revealed no significant difference in performance among the various age groups. However older students performed slightly better than the young. This could be attributed to the focus they attached to their academic work since they join the college with set minds to train as career teachers as opposed to the young students who hardly choose to train as instructors as they are admitted without informed choices.

CONCLUSION AND RECOMMENDATION

High KCSE grades are considered a measure of intellectual ability and students admitted with high grades are expected to outperform those admitted with lower grades. This was not reflected in this study as groups of students who had scored grade C+ in KCSE more or less performed the same as those who had scored grade C across the subjects investigated. This indicates that the student admission grade into the college does not count in their performance in the Primary teacher education curriculum. Similarly the students' age and gender are not contributory factors in their academic achievement according to this study. Rather focus and preparedness determine good performance regardless of these demographic attributes. The present study can be extended to sister colleges and expanded to cover a bigger scope of the subjects offered in the Primary Teacher Education (PTE) curriculum in order to establish affirmative or refutive result.

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