

ABSTRACT

Engineering courses offered in polytechnics play a critical role in acquisition of practical skills and knowledge relating to industrial development worldwide. In Kenya there were two National polytechnics; Kisumu National Polytechnic (TKNP) and Eldoret National Polytechnic (TENP) as per the time of the study. Through engineering education countries build competence based workforce for key industries. Performance of students in engineering courses in TKNP has been unsatisfactory compared to TENP. 645 candidates sat diploma examination in engineering courses between 2010 and 2014 in TKNP. Forty (6.2%) earned credits, 143(22.2%) passes, 247(38.3%) were referred and 215(33.3%) failed; compared to non-engineering courses in which 22(1%) attained distinctions, 963(44%) credits, 720 (33%) passes, 400(18.3%) were referred and 106(4.8%) failed while TENP presented 831 candidates during the same period for diploma examination. 110 (13.3%) attained credits, 283(34.1%) pass, 309(37.2%) were referred and 129 (15.5%) failed; compared to non-engineering courses in which 31(1.59%) earned distinctions, 672(34.62%) credits, 744(38.33%) passes, 393(20.3%) were referred and 101(5.2%) failed. The purpose of this study therefore was to determine influence of selected factors on students' academic achievement in engineering courses in TKNP. Objectives of the study were to; establish the influence of institutional facilities; determine the influence of students' entry behavior; establish the influence of lecturer characteristics on student's academic achievement in engineering courses in Kisumu National polytechnic. A researchers' conceptual frame work was used to establish interrelationships between independent variables- (institutional facilities, students' entry behavior and lecturer characteristics) and dependent variable- (students' academic achievement). The study adopted descriptive and correlational research designs. Study population was 645 students, 41 lecturers, 1 librarian, 3 technicians and 1 principal. Fisher's formula was used to determine sample sizes. Simple random was used to select 241 students and 37 lecturers while 1 principal, 3 technicians and 1 librarian were selected by saturated sampling. Questionnaires, interviews and document analysis guide were used to collect data. Face and content validity was determined by experts in Educational Administration. Reliability was established through a pilot test with 4 (9%) lecturers using test-re-test technique whereby Pearson's r coefficient for lecturers' questionnaire was 0.82 at $\alpha < 0.05$. Quantitative data were analyzed using frequency counts, percentages, means and regression analysis. Qualitative data from interviews and open ended items of questionnaires were reported in emergent themes and sub themes. The study established that institutional facilities had low influence (0.042) and accounted for 4.2% of the variation in students' academic achievement, students' entry behavior had an influence of 0.113 and accounted for 11.3% variation while lecturer characteristics had no influence = 0.125, $p > 0.05$ on students' academic achievement in engineering courses. The study concluded that institutional facilities and students' entry behavior had influence while lecturer characteristics had no influence on students' academic achievement. These findings are of help to the management of TKNP area that needs to be improved to enhance students' academic achievement in the engineering courses. Institutional facilities should be provided in adequate numbers to enhance performance; the management should implement the admission policy for engineering courses. The management should assign lecturers duties considering their age and experience for the courses.