

THE EFFICACY OF STEM MENTORING PROGRAMME IN PROMOTING SECONDARY SCHOOL STUDENTS' INTEREST TOWARDS STEM IN KWAZULU-NATAL PROVINCE, SOUTH AFRICA

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ABSTRACT

An important first step in talent development in science, technology, engineering, and mathematics (STEM) is getting individuals excited about STEM through STEM mentoring programs. The essence of STEM mentoring program is to step-up the declining interest in STEM subjects among secondary school students. Therefore, this research investigated the efficacy of STEM mentoring programs on the students' interest towards STEM in some selected secondary schools in South Africa. Specifically, the study analyses the extent to which secondary school students developed interest towards STEM subjects. The study used post-test control group research design from four selected secondary schools in Ugu District Municipality of KwaZulu-Natal Province, South Africa. A total of 100 students (mentees) were sampled from four secondary schools in Ugu District Municipality of KwaZulu-Natal Province, South Africa participated in STEM mentoring program. Out of this number, 50% from the total of mentees were randomly selected as a treatment group (N = 50 [20 males and 30 females]) while non-participants in the STEM mentoring program from the same schools were randomly selected as a control group (N = 50 [20 males and 30 females]). In addition, 10 teachers who teaches STEM subjects as well as 20 graduate facilitators who possess Bachelor of Education and Postgraduate Certificate in Education (PGCE) in STEM subjects also participated in the study as mentors who anchored the STEM mentoring in the control and the treatment groups. The Data collected from the survey were analysed by means of frequencies and percentages, independent t-test was also employed to statistically validate the research hypotheses. The research calibrated the mean scores and standard deviation values on the participants' interest towards STEM. It turns out that the level of all three aspects of interest towards STEM are moderately high and high with the mean scores between 3.5 to 4.3 which are within the threshold of 3.0 estimated for this research. The study also found that the students' level of interest towards science is 'high' for both group and gender. Meanwhile, the level of interest towards mathematics indicated a different level in both group and gender. The study concluded that boys in treatment group shows moderate level of interest towards mathematics compared to the boys in control group with high level of interest towards mathematics while girls in the treatment group indicated high level of interest towards mathematics compared to the girls in control group. Following the results from this research, this study then suggests that government should recruit teachers that are vast in STEM mentoring who express interest in developing a supportive, caring relationship and friendship with their mentee(s) in order to enable the students develop career interest in STEM subjects.

Keywords: Students' Interest towards STEM, Post-STEM Mentoring Program, Ugu district municipality of KwaZulu-Natal- Province, South Africa