

ABSTRACT

Despite continuous streams of research within education, one of the biggest challenges is academic learner performance and motivational values. If educational systems aim to better support learners, a look into who students are is required as not all learners are identical. Learners differ in personalities, values, motivations, and interests. Even though psychologists have investigated personalities and performance, there is still a lack of knowledge of the relationship between learner personalities, work values, and academic performance among university Science and Mathematics students. The aim of this study was to explore the relationship between personality traits, work values and education performance in university students.

The participants of this study included a total of 67 students at a South African university specialising in Mathematics, Chemistry, Physics and Life Sciences as well as 3 lecturers specializing in Mathematics, Chemistry and Physics. The university students were asked to complete two online questionnaires: A Big Five inventory (personality traits) and a work values inventory. The same students' end of semester academic results in their respective subjects were used as a measure of their educational performance. The relationship between personality traits, work values, and educational performance was investigated using correlational analysis. Interview data gathered from the subject lecturers were used for investigating the dominant teaching and learning approaches.

The results statistically demonstration that certain personalities (such as Consciousness, Agreeableness and Low Openness to experience) had significant correlations with academic marks and specific work values (such as Structure, Creativity, Performance, Self-development, and Altruism). The results also revealed teaching approaches adopted by lecturers in respective subjects. Implications of these findings towards improving educational performance in undergraduate degree courses in Science and Mathematics as well as extending the boundaries of research in the topic are discussed.