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Opperman, Ingrid

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Abstract

Higher education in South Africa faces a variety of challenges including poor pass rates, large numbers of students dependent on the National Student Financial Aid Scheme, intrapersonal and socioeconomic challenges of students and vast numbers of applicants vying for limited places in institutions. The primary method of selection and screening of applicants is the Academic Points Score (APS), calculated on Grade 12 achievement levels. However, large numbers of applicants exhibit similar or identical scores which meet minimum requirements. This makes effective selection difficult in terms of potential to succeed in the tertiary education context. Therefore, additional selection instruments may be useful in determining high from low potential candidates. Cognitive instruments are one option available to institutions and have been investigated to a certain extent, particularly in conjunction with alternative achievement based assessments. The present study examined a cognitive instrument utilised for selections at a University of Technology. The instrument is based on verbal and non-verbal reasoning skills, basic calculative ability, reading comprehension, memory and spatial reasoning. The results on the sub-tests of this instrument were examined in relation to APS and average mark achieved during study for National Diploma courses at the institution. Although statistically significant relationships did exist, as well as some demographic differences, effect sizes and correlation coefficients were small. Concerningly, APS did not explain a large percentage of variance in average mark. This finding is important in light of current selection procedures. Multiple regression and logistic regression models indicated that two specific sub-tests, in combination with APS, did contribute to predictive power in determining average mark. A number of themes in terms of this prediction are explored. These include English language ability, gender differences, specific cognitive skills and the general validity of utilisation of APS and/or cognitive testing as predictors of tertiary education success. In light of poor success rates in tertiary institutions across South Africa, further research into effective selection procedures should be prioritised.