
Cognitive Style and Achievement in The Cell Division Test

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Abstract

The basis of biology courses on genetics, production, growth, development and molecular biology is cell division. Research shows that despite efforts to improve their understanding and importance of cell division in biology, students often struggle with this concept. The aim of this study is to examine the relationship between cognitive styles and achievement in the cell division test. The study population consists of Form Four science students from rural secondary schools in the southwest coast of Sabah. 247 students were involved in this study. The Group Embedded Figures Test (GEFT) and the Cell Division Test (CDT) were the two instruments used for data collection in this study. SPSS version 29.0 was used for statistical analysis. The average score of the field-independent cognitive styles was higher than that of the field-dependent students. It was also found that the t-value is -2.016 and the significant level is $p=0.045$. Meanwhile, the correlation coefficient between cognitive styles and students' performance in the cell division test is 0.128 ($p<0.05$). Based on the results, it can be concluded that field-independent students perform better in cell division test than field-dependent students. The research results provided valuable insights for teachers and are incorporated into the development of integrative teaching approaches and individual learning plans that take different cognitive preferences into account and ultimately increase the academic success of all students in biology classes.

Keywords: *Cognitive Style, Field Dependence, Field Independence, Achievement, Cell division test*
