

## A B S T R A C T

The purpose of this study was to investigate the influence of verbal ability on student achievement when measured by both essay and objective tests constructed on the same domain of achievement . Moreover, the study attempted to examine the influence of the level of cognitive ability measured on students achievement when measured by both essay and objective tests .

The hypothesis of this study was : students' performance on an essay test differs significantly from his performance on an objective test constructed on the same domain of achievement and this difference varies as both the level of student's verbal ability and measured cognitive ability changed .

The sample of this study was randomly selected. The number of its students was 450 (225 males and 225 females). This number represented 64% of the total population namely: students of Preparatory III of U.N.R.W.A. schools at Kalil Area (Hebron) for the academic year 1978/1979 .

The instrument used in the study was a 60-item test designed and constructed to measure students' knowledge and understanding of science concepts in a unit of science selected from the syllabus of Prep. III class. The test-items were of two types: essay and objective . Moreover, the two parts of the test were designed and constructed to be equivalent i.e. both parts measured and sampled the same domain of achievement .

The reliabilities of the objective part and the essay part were (0.802) and (0.874) respectively. Validity content of the measuring instrument was secured by following certain rules in constructing the test-items. Also it was secured by a panel of judges to determine the appropriateness of items to measure the intended educational objectives .

The technique of analysis of variance, repeated measure, was used to test the statistical hypothesis. Level of significance was set at 0.05. Neuman-Keuls comparison test was used to locate sources of statistical significance .

The main findings of the study were :-

1. There is an overall statistical significant difference among mean scores ( $P < 0.01$ ) for male students that is attributed to the cognitive ability factor. Moreover, an overall statistical significant difference is also found at the 0.01 level due to the verbal ability factor. No significant interaction between cognitive ability factor and verbal ability factor at the set 0.05 level of significance was found .
2. Similar findings for female students are found. An overall statistical significance among difference scores is found only due to the cognitive ability factor (  $P < 0.01$  ) and the verbal ability factor (  $P < 0.05$  ) .
3. When the total sample was considered, also similar results were found as regard the two factors only. However, all the calculated F-ratios were statistically significant better at the 0.01 level. Thus an overall statistical difference among difference scores is found due to cognitive ability factor (  $P < 0.01$  ), verbal ability factor ( $P < 0.01$  ) and the interaction (  $P < 0.01$  ) .

In light of these findings, schools are recommended to reconsider their system of testing in order to achieve better judgements on students . Also , schools are urged to discriminate among students in regards to the two factors, verbal ability and cognitive ability, thus, provide for them when the testing techniques are selected .