



The number of years of high school science as a predictor of first year college success compared with other predictors
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Abstract:

The number of years of high school science taken by a student in high school were selected as criteria upon which to base a prediction of first year college success as measured by the cumulative college grade point. Science courses taken in high school were reported as being the only difference which distinguished over- and under-achievers in college. Other variables studied which could be used to predict college success were: sex, high school science grade point, high school grade point, ACT composite score and the science courses taken by an individual.

The purpose of the study of years of science taken in high school as a predictor of first year success in college was to determine if the years of science were as good as or better than other predictors of college success being used at the present time. This need for effective prediction of success in college becomes more important as the number of students seeking admission to college increases.

A sample of 498 students, who were enrolling in college for the first time, were selected from the student body at Upper Iowa University, Fayette, Iowa. The sample was found to be similar to students enrolling at other American colleges based upon the ACT composite scores. The data on the sample were collected from the permanent records of the student. The data were analyzed statistically using multi-linear regression analysis, factor analysis, and Pearson's Product-Moment correlation. The number of years of science taken by a student in high school was found to have a statistically significant correlation of .24 in predicting college grade point. In predicting a college grade point, the high school grade point had a correlation of .60, the high school science grade point a .56, and the ACT composite score a .44. The ACT score and the high school grade point combined had a correlation of .64 in predicting first year college grade point. All the study variables combined had a correlation of .66 in predicting college grade point.

Factor analysis resulted in the identification of five factors which were statistically significant. Factor I was related to measures of academic excellence, Factor II was correlated with interest in science, chemistry, and physics, Factors III, IV, and V were correlated with specific subject matter courses: general science, biology, and the other sciences.

The conclusions developed from this study were that the amount of science taken in high school does not appear to contribute significantly to the student's success in college. The best predictors of college success are those which measure the student's past academic performance. The best predictor now being used for admission to college is the high school record. Combined with the high school grade point, the ACT composite score contributes little to improving the prediction of first year college grade point.

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