

TRAINING, ATTITUDES AND ABILITY BACKGROUNDS OF STUDENTS IN PHYSICAL SCIENCE

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ABSTRACT

After three years of operation of a General Physical Science course at Oklahoma Agricultural and Mechanical College, we are attempting to evaluate the results of this course. This paper, a preliminary report, gives some interesting information concerning the students as they come to us.

Out of a group of 407 students (there were 420 in the class), 3.2% had no science, 31.8% had one unit, 39.6% had two units, 23.7% had three units, 1.7% had four units. The average number of units was 1.89 units. The subject distribution was as follows: general science, 71.2%, biology, 63.6%, chemistry, 16.5%, physics, 12.3%, geography, 21.2%, general science and biology, 42.1%.

This indicated that our students had more science than the organizers had realized. As a result, some adjustment in the level of the course may be required so as not to penalize either group, those with or those without high school science.

In a questionnaire, the students were asked to indicate "subjects liked least" and "subjects liked best." Of the subjects "liked best," the sciences as a group lead the list. English and history followed closely. Of the subjects "liked least," mathematics lead the list, followed by the sciences. History and English were third and fourth, each with about half the indications of Mathematics. Further study of these questionnaires indicated that the students who indicated a science as "liked best," had on the average 2.37 units of high school science. Those who indicated science as "liked least" average 1.95 units. It is to be noted that both are above the average number of units of the class. It is gratifying to note that under the elective system, these students who, by choice, have taken more science, have not had their likes changed.

Twenty-two students from the groups who had three or more units of science, indicated "liked best" for one science and "liked least" for another science. Approximately half of these associated their choices with a "liked best" or "liked least" of mathematics. The inferences to be drawn from these data seems to be, first, the high school science teachers are making a definite impression on their students; and, second, that although data on combinations are not reliable because of the unequal number of subjects listed, the attitude of this group was conditioned by the "like" or "dislike" for mathematics. It may be that this attitude plays a large role in the vocational choice.

For our own purpose, the results indicate that because of the number of units of high school science further study must be made of the previous knowledge of our students and the level of the course adjusted accordingly.

Moreover, upon the assumption that "liking best" is usually accompanied by success in a course, the relatively high rating of English in both "like best" and "like least" means that there must be a wide range of reading ability. For a survey course, this is important because of the large reading assignments.

Third, if high correlations can be found between any portion of the data and final grades, such data, if obtained before registration, might be used to section according to ability and training.