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Does it help a college student taking botany to have had a course in high school biology?

"Why are you taking botany?" That was one of the questions asked a class of forty-two students at Iowa Wesleyan College during their first class meeting of elementary Botany in September of 947. Many indicated that they were taking it to fulfill their eight-hour science requirement for graduation, and some of these indicated interest in nature and biology. Twelve out of the forty-two were definitely biology majors or minors.

Following is a sample of the questions asked:

1. What science have you had in high school or previous college experience?
2. Why are you taking botany?
3. How do plants and animals differ?
4. What is an element?
5. What is the theory of evolution?
6. What is the scientific name of some plant?
7. What do we mean by a composite flower?

Some suggested additions to the above questions are as follows:

1. What is meant by a plant or animal being new to science?
2. What is (a) a hybrid; (b) a mutant?
3. Who was (a) Linaeus; (b) Darwin; (c) Pasteur?

The main purpose of these questions was to discover how much the students knew about science, and biology in particular. The answers seem to indicate that most of them had some concept of the differences between plants or animals, either structural or functional differences. Almost everyone knew the meaning of an element. The answers about the theory of evolution indicated wide use of the popular theory of man descending from the apes.

According to the answers given to the questions ,almost everyone had a fair background of biology. However, when we compared final grades at the end of the semester, those that had had biology in high school fared much better than those do had not, as indicated by the following table:

	Number of Students	Average Botany Grades for term	Average for all courses for term
Students with High School Biology	26	1.69*	2.11*
Students without High School Biology	9	1.22	1.37
Dropped course	7	.....	.....

*The grade scale is as follows: A=3; B=2; C=1; D=0; F= -1

Alex B. Novikoff of the Biology Department of Brooklyn College, New York City, New York, has done a similar study of this kind in 1945. According to his findings there was no appreciable difference in the final grades of the two groups.[1] Our study did not substantiate this, but indicates that the student who has had high school biology is a better student of biology in college.

1. "Teaching Science for the Atomic Age," *The Science Teacher,* National Science Teachers Association, 1948.

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