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Mildred R. Pool

John Brown University

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THE USE OF LIVING THINGS IN TEACHING GENERAL SCIENCE AND HIGH SCHOOL BIOLOGY

Mildred R. Pool, John Brown University, Siloam Springs

There is a tendency for busy high school biology teachers to rely on teaching materials as suggested in text-books or work-books. This is an excellent procedure in most cases, for the specimens suggested are usually generalized and selected because they illustrate the particular principle being discussed. However, many times in order to follow these suggestions, it is necessary either to use preserved materials entirely strange to the pupil, or perhaps they are not available at all, and the teacher has to resort to pictures, reference book and chart work. Not that these mentioned do not have advantages, they do. But why follow such humdrum methods? Why not use the living organisms of your particular locality to illustrate the principles of biology or to give a broad survey of living things as most courses of General Science demand?

Such a program is possible, irrespective of the type of flora and fauna characteristic of your locality. And such a program offers many teaching and learning advantages. It is accepted by all that the average person retains much more knowledge of a thing if that object under consideration is actually seen, perhaps handled, than if it is only read about. For example: Boys and girls may be told about the lowly liverworts, the life habits, form and size which doesn't mean much, for each student has his own concept of the word "small". If you show them preserved material, you get across to them the right idea of form and size, but they remember it as colorless in a museum jar or a watch glass. But what boy or girl wouldn't remember Marchantia if, on a field trip, it were pointed out to them as it covered a rock or a portion of a rock in the cool shade beside a sparkling rippling stream? They might forget and call it a moss, but would that miss the real relationship so dreadfully far? If questions are allowed to arise from the student's natural curiosity concerning the behavior and actions of an animal they are watching in the field or in the laboratory, the answers are very important to that student's mind and make a vivid impression, much more so than if the class is told to look at the animal or plant in the specimen jars, or set up under a microscope.

All high school teachers are familiar with the complaint that "Mrs. So-and-So's class is so boring" or "they just hate to go to some class because it's the same thing day in and day out, never anything new". Such a complaint is rarely heard and could not be fairly made where the teacher is fulfilling the definition of "Biology".

When students realize there is present in their own surroundings a great variety of interesting things, just for the looking, they will become more observant, a trait that will not only aid them in further scientific studies, but carried on into other fields contributes to a happy and full life.

There is much in the behavior of plants and animals that can be applied to human existence. The very way in which plants and animals live together, each in its own niche, yet depending on another individual for some one thing, and if, in turn, helping something else, is so similar to our own concept of a community (man-made). The persistence of some animals, the industry of others, the neatness of another, and many additional traits can be noted. Parallelism can be drawn that will aid adolescents in
adjusting themselves to society in formulating a philosophy of life and give them a better understanding of their environment. This in turn helps to develop a feeling of self-confidence and security.

Plants and animals may be studied in their natural habitats by the students themselves, on well organized and well-planned field trips. This does take careful previous planning, in order that the organisms you find will coincide with the forms being studied. It is not necessary for a field trip to be long and tiresome, involving many details and instructions. A trip to the edge of the school yard to see an ant hill, or a bird's nest will be just as profitable, if those are the things you are studying, as a trip ten miles in length. In this instance, the project method of teaching has a great many things in its favor. Then you can fit the course to meet the conditions of the environment. However, there are many specimens that can be reared quite successfully in the laboratory, but again, that requires extra work and care.

In fairness to the subject at hand, we should see both the advantages and disadvantages, and it seems to me that all the disadvantages can be summed up in the statement, "that it requires careful planning and a reasonable amount of initiative on the part of the teacher". But if the teacher is interested in his or her job and the challenges presented, no amount of work will deter him or her in gaining the proper objectives.

As a summary of this paper, it is my opinion that any course punctuated with observations and experiments with real live subjects can become as fascinating and as intriguing as life itself.

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