

Botany in a Small High School With Access to the Country

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Aquin High School has an enrollment of about one hundred seventy-five students. Biology is offered as an elective to the sophomore class—twenty-four of the thirty-four elect it. A carefully planted campus, the "laboratory" work of the biology students from year to year furnishes a good proving ground for botanical effort. Others are Krape's Park, the Forest Preserves in Winnebago County and Apple River Canyon, Jo Daviess County.

Textbook teaching ignores the first tenets of scientific procedure in that it fails to produce the object under discussion. The basic text as such is a ball and chain for most of our teachers. Accordingly I abolished the text for a year as an experiment. The results were gratifying. Thus the field, a boundless laboratory, becomes the logical alternative in which to observe and live life, hence there is no monotonous routine.

Modern science owes its progress to the fact that it has sought truth by direct observation. Therefore, a biology course should open up to the student the fascinating field of general biological speculation and investigation. We remember poorly the printed text, but best our actual experiences.

There is nothing that can take the place of the actual specimen. The best way to accomplish this end is to build up a teaching museum. An appropriation for such material is difficult to obtain but a period of years plus a well thought out plan may turn the trick.

The life-history method of teaching biology seems a satisfactory one. By such a method we attain the primary end of elementary biology teaching—namely, to introduce students to their animal and plant neighbors and make them familiar with their home life.

The division of my course is a seasonal one. Fall offers opportunity to study the preparation of plants for the long winter, the falling of leaves, autumn coloration, fruit coverings, and seed dispersal. Part of this is done right on the campus. Students are counseled to proceed under their own initiative. Quizzing is done in the field; not formally in the class room.

Trips to the Pecatonica and to a florist greenhouse are part of the fall work. It is in October or November that subjects for the convention are submitted by the students, each choosing one field in which by his research work he will become an "authority." Each student becomes a delegate to the convention representing the state which would most likely furnish, in abundance, specimens for his project. For example, conifers Maine, cacti Mexico and so forth. All extra time is devoted to this unit of study.

Winter—the first snowfall finds us again in the woods studying insect galls, trees in their winter dress, wild seeds and fruits, lichens, mosses and woody fungi. Cakes of ice from ponds containing algae are brought into the laboratory and the production of zoöspores is observed.

During the very cold weeks of January and February considerable microscope work is done. Collections of previous months are mounted. Terraria of the desert and woodland type are assembled. A study of plant propagation is made at this time, too.

Work on our garden show is begun in March. These are in miniature, either formal or informal. Rock gardens with running streams, game preserves, truck gardens, city front yards and New York tenement gardens are some of the usual entries. These are displayed at the public library.

The garden show idea varies. One year we prepared displays of correct arrangement of flowers for various occasions. Another an outside garden show in which we planted trees and shrubs.

The arrival of spring arouses a desire to make an early call to the old hunting grounds. We note what trees leaf and blossom first, the wild flowers, the medicinal herbs.

Preparations for the scientific convention reach completion in May—an annual affair the procedure for which is exactly that of the A. A. A. S. A noted scientist is invited to speak on the program, lectures are given by the students, round table discussions are scheduled and explanatory tours of the exhibits are made.

Thus the convention serves as a complete review for the biology students, a revelation for many outsiders and an incentive for those lower classmen who are doubtful of their electives for the coming year.