

voice and she is deaf to the high tones. That which she is not to hear is spoken in a low pitched tone and she is not yet deaf to those tones.

Perhaps the following experiment in quality has no applicable value in a health class but it is most interesting while we are on the subject. To explain quality tell them that though a tuning fork gives but one simple tone (usually represented by a sine curve), all other musical tones are complex, being made

up of a fundamental and many overtones of different intensities. The number and loudness of the overtones depends upon the shape of the instrument and the material of which it is made. Pluck the string to sound the fundamental. Now gently "tamp" it in the center by touching it lightly with the finger and the first overtone will be brought out (one octave above it). The string really vibrates as a whole (fundamental), in halves, thirds, etc., at the same time.

## Reading Project in Biology

MELVIN A. HINTZ

South Milwaukee High School, South Milwaukee, Wisconsin

"More students are enrolled in the general biology course than in any other science course now offered in high school."<sup>1</sup> This challenging statement should cause biology teachers everywhere to ask themselves, "what have I done or what am I doing to make biology more of a 'living' science for the boys and girls I teach?" Are we as teachers making biology the science which fits everyday needs? A positive answer to these questions calls for constant striving on the part of the teacher to make students more conscious of the important role biology plays in their daily living, by using a variety of teaching techniques.

Through the years one of our most successful projects has been a reading project, BIOLOGY IN THE PRESS, conducted as a part of the regular class work. The project itself is not difficult to administer and does not require more than an hour of the teacher's time each week. At the beginning of the semester each student is provided with a mimeo-

graphed instruction sheet listing the following points to be considered as a guide to effective reading: I. Purpose, II. Method, III. Approved Magazines, IV. How to write the project.

Proceeding after the foregoing pattern, each student is required to read one newspaper article and one magazine article of a biological nature each week. In order to safeguard the scientific quality of magazine reading material used, the list is limited to the following which are available in the classroom or school library: *Science News Letter*, *Science Digest*, *Nature Magazine*, *Natural History*, *Today's Health*, *Wisconsin Conservation Bulletin*, and *Scientific American*. This limited list does not mean that valuable scientific material is not to be found in other magazines. For example, *National Geographic* has excellent material. *Life* magazine has good material, but this is better suited for stimulating interest by use on bulletin boards, than for the reading program.

The report is made on a three-by-five card which can be printed or mimeographed. Following is a sample:

<sup>1</sup> WEAVER, "A Message from the President," *The Am. Biol. Tchr.*, Vol. 13, No. 1, p. 12.

<b>BIOLOGY IN THE PRESS</b>			
Name _____	No. _____		
Date _____	Assignment _____	Grade _____	%
Magazine _____	Date _____		
Article read _____	Pages _____		
Newspaper _____	Date _____		
Article read _____	Inches _____		

On the reverse side of the card the student writes a brief summary of each article read. We urge students to print or type their reports and stress neatness, accuracy and punctuality. The reports are turned in at class time on the date stamped on the report blank and are not accepted after this time except in cases of legitimate absence. Set a time and do not accept late reports if you want the plan to work smoothly.

A master sheet on which are recorded the points for each week's readings is made for each class. The reports are graded on a 0-33 point basis. Every three weeks the points are added and this constitutes one of the assignment grades for a six-weeks' period. The general code in our school each week includes 33 points if both articles are good and the report is typed, 30 points if in ink, 25 points if in pencil, 15 points if the student has only one article.

This project, like all projects, may present some particular problems. At first, students will not know how to find good newspaper articles. The teacher can aid much in the development of

"scientific news sense" if he will post on the bulletin board for the students to check some good articles he has clipped. If a check test or oral report is given once in a while, it will discourage students from copying reports from one another. As the teacher checks the reports any evidence of repeated copying will soon be detected.

One may ask "what does a project of this type accomplish?" Experience in our school indicates that: 1. It causes students to become aware of the fact that biology plays a very important role in their everyday living; 2. It keeps them informed of the latest developments in the field of biology; 3. It develops keen observation and, above all, aids in forming good habits for later reading. As was mentioned before, the administration of this reading program does not become a time-consumer for the teacher, but encourages the student to intelligently read current newspapers and magazines. Education becomes increasingly valuable in a practical way only in so far as it becomes a part of everyday life.