

record of the same. Before planting the corn and beans, we soaked the seeds for twenty-four hours, after taking the first measurements, measured again and compared the records. We discovered from this that the presence of moisture in the seed changes the starch into sugar, for the purpose of sustaining the young plant until it can gain a hold in the soil.

We daily took up one of the seeds and noted the changes as they occurred, supplementing the written descriptions always with small sketches in the margin, referring to the text book to confirm our observations. Each member of the class was provided with a small magnifying glass to aid inspection.

When the plants appeared above the soil, we took note of the fact that while the seed of the corn and pea remained uncovered those of the bean and pumpkin appeared above the soil, forming the primary leaves. We watched the progress of the root downward and the stem upward, always making the differences in growth a matter of record.

No amount of merely verbal descriptions can take the place of objective study presented in this way. The teacher is in danger of attempting too much in a lesson, of presenting what he knows best instead of that which his pupils most need, of dwelling upon what is unimportant or only remotely connected with the subject in hand, or of being too elaborate for his pupils. The essential parts of the plant should receive attention first, and the scientific and the common names should be carefully learned.

When it is remembered that the children in the school are forming habits of observation, of imagining, thinking, feeling, willing, and expression, for life; that they should be acquiring knowledge at first hand, and the ready command of those instru-

mentary branches which are to be the means of further acquisition through life; it will be seen how well adapted to secure these ends is the study of plants. Therefore, the work should be thoroughly done.

The pupil's ability to interpret the record is proportional to his knowledge of the objects which the record describes. The language of the record being his own, he should know the meaning of every word he uses. He will not obtain this desideratum if the teacher is not careful to lead him to know what he should write, by skillfully questioning him on all the points to be brought out.

While our plants were growing in the box we studied other plants and roots, flowers and fruit brought in by the class. Bringing only note books and the specimen to the class, the recitation consisted solely in discovering and writing down the facts which the plant would suggest. The facts noted in the recitation books were afterward copied in ink into the permanent book with which each pupil was provided. Any sketches needed to clear up a statement were also placed in the permanent record, and the pupil was encouraged to look carefully after his language and orthography.

Enlarged drawings were also made on a sheet of paper stretched specially for the purpose, each pupil taking his turn at the board, and the drawing progressing daily. I know of no other way in which teachers may so successfully overcome the difficulties attending "learning to draw" as this. The pupil has carefully considered the form which he is to delineate. "Observation" has been regulated and directed to this very end; he has given thought to the plant, and now attempts to express that same thought by other means. In time he will do it and do it well.

When we arrived at the proper