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AN EXAMPLE OF A GOOD RECITATION

The writer recently observed a recitation on farm manures in one of the Minnesota high school agricultural departments. It may be possible to present the characteristics of a good recitation by describing this one.

What the class did was taken as the most important index of the value of the teaching. In other words, the observer was primarily concerned not with methods of teaching but with results of teaching.

Motive Is Provided

The class had been directed to read the chapter on farm manures in "Soils and Soil Fertility" by Whitson and Walster. The teacher introduced the subject of farm manures by pointing out the economy in the use of manure which prevails in European countries, and raised the question whether the United States would be forced to economize in this way in the future. This was evidently an attempt to supply a motive for the consideration of the subject. An intelligent and lively discussion followed, the opinion being that, though the land is being slowly depleted of fertility, the United States has not yet reached the condition of European countries. The class seemed to have a motive, as indicated by their interest, whether from this source or another.

Answers Organized by Pupils

A student was asked to mention the factors which affect the value of manure. He gave all of them, i. e., the kind of stock, the character of the feed, the age of the animal, the kind of litter, the product for which the animal is kept, and the care of manure. His response was in refreshing contrast to a forced extraction of each factor from a separate member of the class which occurs in many recitations. Evidently the teacher had declined to accept this fragmentary kind of response in previous recitations.

The class discussed each factor which affects the value of manure, some mem-

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THREE TEACHING METHODS COMPARED

In attacking the problem, "Feeding Poultry for Egg Production," three teachers used the methods described below. Let us assume (1) that it is possible to use all three methods, and (2) that the three methods are used with the same skill. What is the most effective method? Under what conditions should each method be used? The Visitor would be pleased to receive discussions of these two questions from its readers.

Teacher A—First prepared a questionnaire on feeding poultry for egg production. He made enough copies to give each boy in the class a copy to fill out for his flock at home and one to fill out for a neighbor's flock. The questions asked were:

1. Is dry mash fed?
2. What is composition of dry mash? Constituent-Parts by weight—Bought or raised.
3. How is dry mash fed? Container, time.
4. Is scratch feed fed?
5. What is the composition of scratch feed? Constituent-Parts by weight—Bought or raised.
6. How is scratch feed fed? Time, litter, amount.
7. What wet mash is used, and how?
8. Is milk used, sweet skim, sour skim, buttermilk? How fed?
9. What green feeds are fed? How fed?
10. What patent feeds are fed?
11. How is water supplied? When?
12. What provision is made for grit? For lime?
13. Do the hens eat eggs? Feathers?
14. How does the summer feeding differ from the winter feeding? a. Feeds used. b. Methods of feeding.

The teacher did not give out the questionnaire at once but first asked the class members what they believed should be found out about the feeding of poultry for egg production. The boys suggested many of the points in the questionnaire.

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ber of the class being asked to discuss completely a factor. The answers to questions had to be organized in the mind of the student. In other words, the questions were large enough to require an organized discussion. The questions were not so limited as to break topics into fragments. The students were able to see topics as wholes.

Class Makes Generalizations

In discussing the relation of the kinds of stock to the value of the manure, the class was asked to turn to a table on page 145 giving an analysis of the kinds of manure. The class studied the table and drew conclusions. The burden of making generalizations was thrown upon the class, as it should be.

Class Compares Values

When the qualities of the different kinds of litter were compared the teacher asked: "What would you suggest that the farmer in this section use for bedding?" This question required the class to compare the values of the kinds of litter with a given set of conditions in mind. The teacher might have gone further and asked the class to compare these values under the conditions existing at their homes. The consideration of relative values was good. The question was also asked: "Which is the most important of the factors affecting the value of manure?" requiring a still further consideration of relative values.

The teacher skillfully led up to a discussion of the ways of storing manure on the farm by asking successively the following questions:

"Which of the factors can we control?"

"What are the two essentials in caring for manure?"

"In what ways is value lost from manure?"

"How can these losses be avoided?"

The various ways of storing were discussed only briefly, since the period was nearly over. In evaluating each method the teacher did not insist that the two essentials, i.e., keeping manure compact and keeping it moist be kept in mind. The discussion would have been more valuable and to the point if these two criteria had been constantly applied. Keeping the manure covered was not considered as an essential.

Following a discussion of the ways of storing manure, the teacher asked the class to consider which way or combination of ways was most practicable for that community. Consideration of this question required a comparison of values and an application of the ideas developed to the local situation. If the students had been asked to work out for the next time a method of storing manure for their home farms on the basis of the recitation, they would have had an opportunity to do some original thinking.

Standards of Judgment Used

This recitation has been briefly criticized according to five standards. Four of these are described by F. M. McMurray in "Elementary School Standards" (World Book Company). These may be indicated by asking four questions as to each recitation:

1. Is there motive on the part of pupils?

2. Is there consideration of relative values by pupils?

3. Is there attention to organization of subject matter by pupils?

4. Is there initiative or self direction by the pupils?

A fifth question should be asked as to a recitation in agriculture: Is there farm application of the ideas which are developed by pupils? This last standard may overlap the other standards; that is, consideration of values and application of ideas may occur simultaneously, as, for example, when the class was asked to select the best local method for storing manure.

Summarizing the criticism on the basis of these five standards, we may say that this recitation indicated motive on the part of pupils; the introduction by the teacher was designed for this purpose. This phase could have been developed further by showing the difference in money value between well cared for manure and poorly cared for manure. Such motive should be created during the assignment.

The recitation showed much consideration of values by pupils; for example, comparison of kinds of manure, kinds of litter, ways of storing manure.

Attention to organization was good. The students were asked questions which required them to organize their answers and discuss a topic completely. A summary by the students at the end of the period might have strengthened the recitation in this respect, but the time was not adequate for this.

Initiative or self-direction on the part of pupils is rare and difficult to bring about. As suggested above, individual plans for the storage of manure on the home farm offer an opportunity. Individual assignments might have accomplished it.

The idea as to what litter was best in the community and what was the best method of storing manure for the community, were applied, tho the applications might have been more specific; they might have been applied to the home farms.

McMurry says, "In instruction on the lower plane the comprehension and retention of facts and mechanical skill, rather than certain effects upon the more important habits of pupils, are the acknowledged goal." The adoption of the five standards does not justify the teacher in dispensing with testing, i.e., instruction on the lower plane, as an aim of the recitation. If the teacher is not certain whether the class is prepared, he is justified in asking questions the answers to which show whether the assigned reading has been covered.

McMurry further says, "In instruction in the higher plane facts are comprehended and remembered; they cannot be neglected because they are the raw material with which instruction deals. But they are mainly the means, not the end in themselves. Efficiency on the part of pupils is the goal."

We do not expect that all recitations will meet all these standards satisfactorily. An intelligent attempt to meet them usually places the recitation on a higher plane. The recitation described above qualifies as instruction on the higher plane.

F. W. L.

Recitation conducted by J. C. Holger, Hinckley, Minn.

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The questionnaires were then passed to them. They added two or three points. The teacher went over the questionnaire with the class to make certain that the questions were clearly understood.

In the supervised study period the class studied Chapter 12, "Feeding for Egg Production," in Lamon and Kinghorne's "Practical Poultry Production." Special attention was given to the points on the questionnaire in reading this chapter.

When the boys came to class with the questionnaires filled out, each boy was assigned certain questions and he tabulated the answers to these on a sheet of paper. After he totaled his tabulation, he drew conclusions. Then he formulated in writing recommendations for the improvement of this particular phase of poultry-feeding on the farms surveyed in the light of local conditions and the principles developed in the assigned reading.

The final step consisted of the presentation of reports and discussion. The teacher merely emphasized the need of each report's bringing out (1) conclusions, (2) recommendations, and (3) reasons for the recommendations. He also stated that at the end of the discussion some one would be asked to summarize the recommendations. The boys asked questions as each report was made, and criticised freely. Some recommendations had to be changed as a result of the discussion. Then a member of the class summarized the recommendations for improving feeding for egg production on the farms surveyed.

Teacher B—Assigned Chapter 12, "Feeding for Egg Production," in Lamon and Kinghorne's "Practical Poultry Production." As a motive for study of the lesson, the point was developed that, in most of the farm flocks at the homes of the boys, egg production in winter is negligible. Making the hens lay in winter was the problem set up. The boys were then asked what points should be studied as most important. The following were developed:

1. How may we imitate summer feeds and feeding conditions in the winter?
2. What nutritive ration is best for egg production and what feeds are essential in order to get this ration?
3. What are classes of poultry feeds, and how should each class of feeds be fed?
4. How may we induce exercise by feeding?
5. When (at what time of day) should the various classes of feed be fed?
6. How much should hens be fed?

At the next class period the teacher used the question-and-answer method. The six questions above were the centers of discussion. A boy was asked to take one of these questions and discuss it in detail. The other boys were expected to criticise his statements and add to them if possible. Sometimes the teacher asked the boys to illustrate their points by concrete examples.

One of the boys was asked to describe how feeding for egg production was practiced at home. The class criticised

and reconstructed his method. At the end of this discussion a boy was asked to summarize the principles underlying feeding for egg production. The teacher asked whether the problem had been dealt with in a way to make it possible for the boys to get satisfactory egg production in winter from their home flocks. After one or two more questions the class members indicated that they were ready to go ahead to another problem.

Teacher C—was teaching a class of boys most of whom had poultry projects. He developed the point that one of the first problems in connection with the projects was to determine the method of feeding for egg production in winter. The boys were to run an egg-laying contest among the project flocks, and the teacher pointed out that the boy who made the best plan would be enabled to make a good showing in the contest.

Each boy was asked to make a written plan of procedure which he would follow in feeding for egg production. The first step was to formulate questions the answers to which would constitute a good plan. Each boy was supposed to formulate questions which would fit his own particular conditions. The questions formulated by one boy were as follows:

1. What feeds must I buy or raise in addition to those I have at home in order to make a good ration?
2. What are the classes of feeds I should use and which feeds in each class?
3. How should I feed each of these feeds?
4. What will be my feeding schedule?
5. How much of the various feeds shall I feed?

It was suggested that space should be allowed for more questions and that each boy be on the lookout for additional important questions. If the questions covered the ground fairly well, the teacher told the boy to answer them.

Previously the boys had made bibliographies on the subject of their projects. Now they went through the references in search of material bearing on their questions. A few directions were given: First, the answers should contain not only the *what*, *how*, or *when*, but also the *why*; second, the authorities should be cited for the statements made. These authorities might be authors of books or bulletins, local poultrymen, county agents, etc.

The answers were written in preliminary form and submitted to the teacher for approval. Then each boy submitted his plan to the class for criticism and

discussion. After a few plans were discussed, only those parts of the remaining plans were discussed which contained new points. After the class discussion the answers were revised and copied into the project notebook. F. W. L.

Will You Do Your Part?

In another column will be found F. W. L.'s article on a "Comparison of Three Teaching Methods."

Readers of *The Visitor*, particularly teachers of agriculture in Minnesota, will you respond to his request for discussion of these methods?

For some time articles have been published in *The Visitor* for your benefit. Have they helped you? If so, are you willing to reciprocate by responding to his request for a discussion of these methods? We shall watch with interest your replies.

A. V. S.

Publications for Agricultural Teachers

The first number of the Vocational Education magazine indicates that teachers of agriculture are going to find this publication of much value. The organization of the editorial board is in six departments. These are agricultural education, commercial education, homemaking education, industrial education, part time and continuation education, and training in industry. There are ten issues per year and the subscription price is \$3 per year. It is published for the National Society for Vocational Education by the J. B. Lippincott Company, Philadelphia.

Many teachers are finding the Potato Magazine very useful. There are several valuable articles in each issue by potato men of national reputation. It is published at 701-704 City Hall Square Building, Chicago, Ill.

A volume on Vocational Education by Theodore H. Eaton has been issued as a part of the Rural School Survey of New York State. While this volume is primarily of interest to residents of that state, much of the data and many of the principles developed will be of much interest to teachers of agriculture in other states. This volume can be obtained by ordering from the Joint Committee on Rural Schools, Ithaca, N. Y. Price 75 cents.

A book which will be of help to teachers of agriculture who are giving shopwork is *Farm Mechanics*, by Crawshaw and Lehman, Published by Manual Arts Press, Peoria, Ill. Price \$2. F. W. L.