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THE ROLE OF TEACHER EDUCATION IN SHAPING THE VOCATIONAL AGRICULTURAL CURRICULUM THROUGH INSTRUCTIONAL MATERIALS

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Teacher educators have assumed various leadership roles in agricultural education over the years. The roles have tended to revolve around three main areas: (1) pre-service and in-service teacher education, (2) research and evaluation, and (3) assistance to local secondary schools in curriculum planning and implementation. The first of these areas has received the greatest amount of emphasis due to the fact that the training of teachers has been the primary reason for the existence of teacher education departments. The second area, research and evaluation, has emerged to take on full form and importance in recent years. It is the latter of the three areas, curriculum planning and implementation in the secondary schools, which will serve as the focal point of this article.

Assisting local schools in planning and implementing programs of instruction, i.e., the curriculum, in agricultural education has been

accomplished in several ways. One of the most important ways assistance has been provided is through the development of instructional materials. Instructional materials development has been a distinct function of the faculties in agricultural education in many universities. In addition, instructional materials development laboratories have emerged in recent years and, in harmony with the teacher education departments, have produced numerous pieces of material. The term "instructional materials" is used in a broad sense in this article to describe various materials produced for use by high school teachers of agriculture and includes a wide assortment of materials, such as curriculum guides, reference units, and learning packages.

Bases for Instructional Materials Development

The bases for instructional materials development activities are rooted in the curricula of high school agricultural education programs. Any instructional materials development effort further delineates the curriculum. This delineation occurs, however, only if the instructional materials produced are used by teachers in the conduct of instructional programs. It may be said that such materials "shape" the curriculum, giving it form and substance.

The importance of the role of instructional materials is clarified by examining the meaning of the term "curriculum". Numerous attempts have been made to explicitly define "curriculum". In general, these definitions have been stated in broad terms, however, and lack some of the precision which meaningful definitions need. Johnson defined curriculum as "the sum of the experiences that students have under the direction of the school and school personnel..." Barlow[2] used a similar definition and defined curriculum as "... the sum of the experiences that a student has under the guidance of the school." With either of these definitions, the impact of instructional materials, when used by teachers, is very great in shaping the experiences that students have in high school agriculture classes.

Procedures in Instructional Materials Development

A number of approaches have been used in the development of instructional materials for agriculture. Some of the approaches have involved systematic procedures, while others have followed no set procedures and, in some cases, resulted in haphazardly-prepared materials. The development of instructional materials must be accomplished in accordance with procedures which result in technically-accurate materials that are appropriate for the intended audience of teachers and students. The function of instructional materials development, therefore, must be subjected to a systematic procedure which will produce materials worthy of shaping the experiences which students have under the direction of the school.

In general, the approaches used in instructional materials developed can be placed in a reasonably definite procedural sequence.

This sequence is summarized below, as adopted from the publication entitled Instructional Materials Development in Agricultural Education at Virginia Polytechnic Institute and State University.[3]

1. Determination of meterial needed--This is the first and most important step in any materials development activity. Persons involved in materials development must secure the input of teachers, supervisors, representatives of agribusiness and industry, teacher educators, and other persons who are knowledgeable of the needs of agriculture and agricultural education. This step helps to ensure that staff time and economic resources are allocated to the areas of greatest relative need. Priorities should be derived from the areas of need on the bases of professional judgement and available funding.

2. Preliminary planning--As an early step in the sequence of instructional materials development, preliminary planning involves refining the priority area, establishing deadline dates, reviewing related materials, and forming a committee (often on an informal basis) to assist the person responsible for the materials to be developed. This procedure blends into the next step, information acquisition and analysis.

3. Information acquisition and analysis -- This procedure involves obtaining and studying reference materials in the priority area. In areas where little written material is available, this may require considerable effort, including first-hand observation and consultation with persons who are knowledgeable in the area. Early analysis of the resource materials is most important, especially from the standpoint of the person developing the material acquiring a broad base of knowledge of the technical areas involved.

4. Preparation of material--This procedure is time consuming and requires great precision. A tentative outline should be prepared and reviewed by persons who are authorities on the subject. Objectives must be formulated, format of the material determined, technical content sequenced and written in an acceptable style, and appropriate illustrations selected or developed. One of the most important considerations in the preparation of material is the intended audience, especially as related to reading level and previous learning. The outcome of this procedure is usually a draft or preliminary edition of the material suitable for field testing and review by an authentication committee.

5. Refinement and field testing--Once a draft or preliminary edition has been developed, the accuracy and appropriateness of the material must be ensured. This can be accom-

plished through reviews by authorities in the subject area and through systematic field testing in situations similar to those in which the final product will ultimately be used.

6. Duplication--This procedure involves appropriately preparing multiple copies of whatever material is produced--for written materials, it involves printing; for film materials, it involves securing prints; and for audio materials, it involves dubbing additional tapes.

7. Distribution-diffusion--The manner in which material is gotten into the hands of users, to a large degree, determine how extensively it will be used. The nature of this procedure varies with the material, as some materials require greater training of intended users than other materials. Such training may be provided through workshops, conferences, and in-service graduate-level classes.

8. Appraisal and updating--The purpose of this procedure is to secure feedback on material usage and to revise the material in more acceptable and usable forms. Persons who have developed materials often maintain files of comments and suggested improvements received from the users of materials.

Summary

The development of instructional materials is an important responsibility of teacher educators in Agricultural Education. Such materials have a tremendous impact on the curriculum, and therefore, should be subjected to systematic procedures while under development. Providing needed materials in acceptable format and disseminating these materials effectively is an important way of providing assistance to local schools in curriculum planning and implementation.

Footnotes

[1]Johnson, Harold T. Foundations of Curriculum. Columbus, Ohio: Charles E. Merrill Publishing Company, 1968, p. 1.

[2]Barlow, Melvin L. A Guide for the Development of Curriculum in Vocational and Technical Education. Los Angeles: University of California, Division of Vocational Education, 1969, p. 6.

[3]Lee, Jasper S. Instructional Materials Development in Agricultural Education at Virginia Polytechnic Institute and State University. Blacksburg: Agricultural Education Program, 1975.