

Debate the Issue

The Purpose and Delivery of Instruction About Agriculture

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The purpose of instruction in agriculture should be that of educating students about agriculture: the importance and contributions of agriculture to society, the development of practical agricultural skills, and the preparation of people for occupations in agriculture. Instruction in agriculture must be broadened to include instruction in these areas if it is to make a significant contribution to society and address specific learner needs in the years ahead.

Whether instruction in agriculture should be broadened has generated much discussion and caused a polarization among agricultural educators. One group agrees that agricultural instruction in public schools must be broadened. They express the degree of their concern in terms of questioning the future existence of such instruction if it is not broadened. The other group believes that to move in such a direction would weaken or dilute the current level of agricultural instruction in the public school system to the point where what is currently being offered would be rendered ineffective. They believe that the profession must hold fast and true to the current approach to providing agricultural instruction.

For the sake of the discussion that follows, "instruction in agriculture" refers to vocational agriculture and "instruction about agriculture" refers to the study of agriculture as a discipline in the public school curriculum (includes educating for employment in agriculture).

Historical Perspective

The study of agricultural subjects began in the latter part of the 17th century. At that time, The Academy was the predominate form of education in the nation, and its curriculum included the study of gardening and agriculture (Winkle & Gilchrist, 1948). As this approach to structuring public education gave way to the public high school, the study of agriculture continued as a part of the curriculum.

During this time period, the nation was an agrarian society, and agriculture was important to the survival of the nation. The study of agriculture was considered so important that it became a required part of the high school curriculum, and several of the states mandated such study through legislative action. Iowa was one of these states. Courses taught in agriculture were general in nature, touching on all of the important aspects of agriculture at that time. Society believed that being literate about agriculture was important for all students and society as a whole.

Advent of Smith-Hughes Act

In the late 1800s and early 1900s, concern arose among educators about the lack of emphasis on practical education in the public school curriculum. These educators believed that such instruction should be

Education Convention, said, "Education should be a preparation for life and should be like life to which it prepares."

People advocating an expanded high school curriculum to include practical arts studies pushed hard for establishment of such studies. They were met with strong resistance by those educators who felt that such instruction had no place in the high school curriculum. Harris, Superintendent of Schools in St. Louis, wrote in 1886:

I have no patience with those who advocate industrial education in the common schools. No parent would prefer to have his children know how to work skillfully in preference to knowing how to behave morally, and how to act according to the accepted code of manners.

McCormick and Cox appear to support the statement by Harris when they state that "It would be dangerous to advocate that vocational agriculture (one of the practical arts disciplines) become involved with general education."

As a last resort, those educators who advocated putting practical education courses in the school curriculum, assisted by the Department of Labor, persuaded Congress that such education was needed to increase the economic and social efficiency of the nation. Congress responded by providing monies to the states and local schools to establish such education through passage of The Smith-Hughes Act in 1917.

Providing federal dollars to support the establishment of vocational agriculture programs attracted the attention of local schools throughout the land, and they began establishing programs in their schools. As school systems established vocational agriculture programs, they dropped the general agriculture courses they had been offering as a part of their curricula. Those engaged in promoting and establishing vocational agriculture programs strongly encouraged local schools to drop their general agriculture courses and offer this new form of instruction in agriculture, arguing that it was a better approach to providing instruction in agriculture. Also, dropping the general agriculture courses decreased the competition for students for the vocational agriculture program. I distinctly remember, in 1962, the elation expressed by a leading agricultural educator as he informed a group of us that "We finally got rid of the last general agriculture program in this state. Now all of agricultural instruction is provided through vocational agriculture programs."

The Smith-Hughes Act became the purpose for establishing vocational agriculture programs. It wasn't until 1928, however, that a set of objectives for this program was established. A philosophical base for the program was never developed and published. Establishing a philosophical basis for the program was not necessary. The Smith-Hughes mandate and federal rules and regulations governing the program became the philosophic basis for the program. An attempt to establish a justification for the program was made by Prosser (1925) eight years after passage of the Smith-Hughes Act.

Without a clear, well-thought-out philosophical basis for the program, it became difficult to gain acceptance of the program by other educators and establish its legitimate place in the school curriculum. The high school curriculum had as its purpose to provide a broad general education for all students. Other educators and the public did not see how the vocational agriculture program fit into the high school curriculum scheme. As McMillion (1982) stated, "Vocational education is education for work and vocational education in agriculture is not for everyone."

The number of high schools offering vocational agriculture programs grew within the guidelines established by Congress. The program was integrated into the high school curriculum as an elective course and remains an elective course today. Many high schools, however, chose not to make it part of their curricular offerings. Where in the past, agriculture was taught in a large number of schools to all students, under the vocational agriculture program, agriculture was taught to a select group of students in fewer schools, and agricultural educators in these schools had to continuously justify low student enrollments in the program when compared with enrollments in other academic programs.

Arguments for and against vocational agriculture continue among educators, and they are the same arguments that were made prior to the passage of the Smith-Hughes Act. One must ask: "Why, after seventy-one years, haven't vocational agriculture programs found their niche and become an indispensable part of all secondary school curriculum?"

Need for Change of Purpose

Currently, vocational agriculture programs are the only means of providing instruction about agriculture in our public schools. This program still has as its goal developing skills for occupations in the agricultural industry. If this program is to serve the agricultural industry and, more importantly, the learner and society in the future, it must change.

Broadened Mission

The mission of the program must be broadened and a strong philosophical base established for the program. This mission must clearly describe the scope and breadth of the program and contribution to the learner, the school curriculum, the agricultural industry, and society.

Once a new mission has been established for the program, the name of the program must change. The use of the term "vocational" has and continues to be confusing and nondescriptive for agricultural educators, school administrators, teachers, and the public. Agricultural educators find it difficult to describe how vocational agriculture differs from occupational and career education and distinguish it from other academic disciplines. Other educators and the public view all aspects of the high school curriculum as being vocational. From their perspective, the study of chemistry contributes to becoming a chemist, and the study of biology contributes to becoming a biologist or pathologist. They view the study of such subjects as language arts and mathematics as being required for employment in all occupations. When managers of agricultural businesses were asked to list the most important skills needed by workers in their businesses, those skills that were listed first and considered most important were communication, computational, and social skills (Kahler, 1964; Mabon, 1964).

McCormick and Cox attempt to add insight into this issue when they state that SOE is the part of the program that "makes vocational agriculture vocational." They are echoing a similar comment made by many vocational agriculture educators. Occupational experience is one of four facets of the vocational agriculture program, the others being classroom instruction (formal instruction), laboratory instruction (informal instruction) and the FFA. Are these three facets of the program vocational or are they general instruction about agriculture? Knowing the content of these program areas and how they are taught, knowledge about agriculture is stressed. For example, what makes instruction in animal breeding, embryo transplanting or beef production vocational for a student with an agronomic supervised experience

program? Or does one assume that some day this information may be useful to that student, therefore the student should be knowledgeable in this area (studying about agriculture).

Such a statement and name change will contribute greatly to establishing instruction about agriculture as a valid, legitimate educational discipline in the high school curriculum and will bring instruction in agriculture out from under the shroud of a federally mandated program existing only because of congressional edict.

Stress Student Needs

Instruction in agriculture must re-establish meeting students' needs as a priority and programs restructured to meet these needs. Benjamin Bloom, in a speech given at the Iowa State Education Convention in 1973, made the following statement about what is happening in our school systems. His comments are particularly fitting to vocational agriculture programs. He said, "In our high schools, we make structure and content of the curriculum constant and the needs of learners variable. What we should be doing is make the needs of students constant and the structure and content of the curriculum variable."

Many times the statement has been made by agricultural educators that the vocational agriculture program is built around the needs of students enrolled in the program. The reality of the situation is that the assumption is made by these educators that all students enrolled in the program are seeking employment in agriculture. Therefore, industry needs become student needs, and program content is focused on meeting industry needs. McCormick and Cox appear to be in agreement with the above assumption when they cite the National FFA Foundation description of the vocational agriculture instructional program. In that statement, emphasis is placed on the program preparing for specific agricultural occupational clusters. No mention is made about the learner and his/her needs.

If, as a profession, we are sincere about structuring our program and its content around student needs, we must determine: (a) what their needs are; (b) those needs we can effectively deal with in our program whether they are occupationally oriented or otherwise; and (c) expand or change the content of the program to address these needs.

Emphasize Agriculture Literacy

Instruction in agriculture should be broadened to provide instruction about agriculture that has, as its goal, increasing the literacy of all students about agriculture. Mayer and Mayer (1974), at the American Academy of Arts and Sciences, wrote:

The failure of our secondary schools and liberal arts colleges to teach even rudimentary courses on agriculture means that an enormous majority, even among well-educated Americans, are totally ignorant of an area of knowledge basic to their daily style of life, to their family economics, and indeed to their survival.

Having assumed the sole role of providing agricultural instruction in the public school system, vocational agriculture programs must accept the responsibility of addressing this need in the high school curriculum and assist other educational disciplines in providing instruction about agriculture as it relates to the content of their disciplines.

Including such training will certainly add a new dimension to instruction in vocational agriculture that has been and is being resisted by some agricultural educators. They argue that providing instruction about agriculture through the vocational agriculture program would cause federal support of the program to cease or at least be diminished and cause major changes in the federal-state-local relationship. They caution other agricultural educators not to "water down the program."

Such concern reflects the relationship that has plagued the program since 1917 and has led and still leads agricultural educators to first ask, "Will Congress approve of it" before any change in the program is made, regardless of the justification for the change. The question should be raised: Should the profession be most concerned with securing dollars to support the program or meeting the agricultural education needs of learners and society? Surely meeting the agricultural needs of learners and society is most important. The surest way of developing support and respect for the program is through developing a program that effectively addresses educational needs of learners in agriculture and demonstrates that the program is effective in meeting these needs.

Make Instruction in Agriculture Available for All Students

Vocational agriculture programs should be restructured to allow students to learn about agriculture as well as prepare for employment in the agricultural industry. Many of the students who have and are currently enrolled in the program have no intention of becoming employed in agriculture after they graduate from high school. They are studying agriculture for their own intrinsic reasons. Recent studies at Iowa State University revealed that from 25% to 40% of the vocational agriculture graduates had entered agricultural occupations up to seven years after graduation (Ruff, 1985; Striegel, 1988). It was further observed in a study done in Iowa in 1982 that when students were allowed to enroll in the vocational agriculture programs of several test schools and were not required to conduct supervised occupational experience programs or belong to the FFA or have an occupational objective in agriculture, enrollments in those programs tripled in two years.

Emphasize Basic Skills and Science Principles

Instruction in agriculture should be expanded to include activities that contribute to the development of basic skills, thinking skills and problem-solving skills in the learner and emphasize the application of biological and physical science principles in agriculture. This point should not be interpreted as advocating that vocational agriculture teachers become English, mathematics or science teachers. It should be interpreted as advocating that agriculture teachers enhance instruction in these areas in their agriculture classes. An example of this need is demonstrated annually in the National FFA Floriculture Contest. Industry representatives who serve as judges are high in their praise of the technical and business aspects of the contest. They are very critical, however, of the social, communication and computation skill deficiencies of the students who participate in the contest. This need was most recently underscored in a high-level meeting held in Washington, D.C. At the request of industry, on July 12, 1988, the Secretaries of Labor, Education and Commerce met to identify ways of increasing the development of basic and problem-solving skills of students who will be entering the labor force in the years ahead.

The agricultural industry has changed dramatically from what it was when the vocational agriculture program began in 1917. It has emerged a highly technical, basic and applied science. When one surveys the horizon and observes the emerging agricultural technology, it

challenges one's imagination almost to the point of disbelief. When these developments are compared with the content of the vocational agriculture program and its potential for providing instruction germane to these developments, it becomes apparent that a major restructuring of the focus and content of the program will be necessary to keep pace and do its part in teaching about these developments. Due to the technical nature of these agricultural developments, developing skills for employment in many of these occupational areas may be impossible. Instruction in agriculture will require more emphasis on the biological and physical science principles undergirding these developments.

McCormick and Cox raise the question about the acceptance of the public to support the study of agriculture from a general perspective and propose that studying about agriculture should be a part of the general education curriculum not the vocational agriculture curriculum. They then question whether local boards of education would fund programs about agriculture as a part of the general education curriculum in lieu of mathematics and science courses. Currently, in several states (Iowa among them), local boards of education allow their students to earn science credits to apply toward graduation requirements through their study of vocational agriculture. These boards of education perceive instruction in agriculture to be as much, if not more, a study of science than occupational training for employment in agriculture.

Educating for Employment in Agriculture

The vocational agriculture program must continue, inasmuch as possible, its effort to prepare young people for employment in agriculture; however, program goals and objectives should be revised to reflect a realistic approach to this training. The days are past that in a four-year period of time (540 hours) a student can be prepared for entry into but the lowest level agricultural occupations. Instruction in agriculture for these students must focus on providing a basic understanding of technical agriculture and the many facets of the agricultural industry and provide students with opportunities to explore occupations in the industry. Students can then make better decisions about areas in which they would like to work and plot an appropriate post-secondary strategy for preparing to enter the occupation.

Delivery of Instruction About Agriculture

Role of the School Curriculum

The delivery of instruction about agriculture is the responsibility of the total K-14 school system. At the elementary school level, students should be introduced to and made aware of agriculture and how it affects all facets of their daily lives. Agricultural concepts should be integrated into the content of classes normally taught at this level using agricultural situations and concepts as the setting in which to teach the content of their classes.

Agricultural instruction at the secondary level should expand students' knowledge about agriculture, provide opportunities for students to experience agriculture in an exploratory manner, and allow students to study agricultural concepts in depth and develop practical agricultural skills that students may use in seeking employment in the agricultural industry or that students may find useful in nonagricultural endeavors. The study of agricultural concepts should be integrated into all courses in the secondary curriculum with emphasis placed on demonstrating the practical application of the academic content in agriculture.

Instruction about agriculture at the post-secondary level should place emphasis on specific skills requisite to employment in the agricultural industry.

Coordination of Instruction About Agriculture

Establishing and coordinating instruction about agriculture in the school curriculum is the responsibility of the school curriculum director. The agriculture teacher should assist the curriculum director in coordinating agricultural instruction and providing instructional materials other teachers can use to integrate agricultural instruction into their courses of study.

Role of Agriculture Program at Secondary Level

McCormick and Cox are quite specific in their condemnation of making "instruction about agriculture" a part of the vocational agriculture program. They believe that it should be made a part of the general education curriculum as an "innovative program" in the school system. Allowing students the opportunity to choose between two agriculture classes would most likely create real enrollment problems for the vocational agriculture program. They cite what happened to home economics education when they moved to general home economics and fear that the same thing would happen to vocational agriculture. If the "profession leads the profession," such a situation can be avoided for the vocational agriculture program.

The agriculture program at the secondary level should be restructured to provide three options for students to study agriculture. One option should focus on providing general knowledge instruction about agriculture. Another option should focus on developing practical skills through agricultural study that the learner can use in both agricultural and nonagricultural activities. The last option should focus on increasing the knowledge of students about agriculture and, inasmuch as possible, develop skills germane to specific agricultural occupations or clusters of agricultural occupations. There is no reason why the program cannot be administered in such a manner that federal and state vocational funds can continue to be used to support this last option, as has been done in the past.

The agriculture program must be reorganized around semester or nine-week courses in order to provide the flexibility needed to offer students the opportunity to study under the three options described above. Selection of semester or nine-week course topics and designation as to which option(s) they serve should be based on the interests and needs of students, application of basic and applied sciences in agriculture, and the practical and occupational skills required in agricultural occupations.

There are those in the profession who believe that the agriculture program should not be organized in semester or nine-week instructional units. They present the argument that continuity of FFA activities is difficult to maintain and that students cannot develop strong experience programs operating under the semester or nine-week system. These difficulties are not caused by the organization of the program. They are a result of an unwillingness and/or inability of agricultural educators to find ways to maintain strong FFA and experience programs under the semester or nine-week system.

Flexible Student Program Entry and Exit

The agriculture program must allow students to enter and exit the program according to their interests and educational needs. Such access

to the program will require that not all students conduct supervised occupational experience programs, belong to the FFA or have occupational objectives in agriculture when enrolling in semester or nine-week courses. One should not conclude from this statement that students would not have the opportunity to experience agriculture and participate in the FFA. Practical, hands-on agricultural experiences must be included in each semester or nine-week course that would enhance student understanding and application of the content of the course. Students enrolled in the course would be encouraged to participate in all FFA activities and, if they desire, become a member of the local chapter and be permitted to maintain their membership by paying their chapter dues.

Role of Teacher Educators

Teacher educators in agriculture must assume a leading role in bringing about these changes. They must broaden their preservice programs to provide prospective teachers with an understanding of the new mission of instruction about agriculture and prepare them to establish and conduct agriculture programs containing the three options described above. Inservice efforts among agriculture teachers must explain and stress the importance of broadening local programs to include instruction about agriculture and provide them with guidelines for changing their programs.

Teacher educators in agriculture must work with teacher preparation programs in other disciplines in: (a) encouraging them to include the study of agricultural concepts as a part of their teacher preparation programs; and (b) providing them with agricultural information that can be incorporated into their teacher preparation programs. In addition, teacher educators must work with programs that prepare school administrators and curriculum specialists to develop an appreciation for including agricultural studies in the school curriculum and assist them in developing guidelines for integrating such instruction into the school curriculum.

Supervisors and teacher educators must provide support, financially or otherwise, for the development of agricultural teaching materials for use by elementary, junior high school, and secondary teachers. Studies in Iowa have revealed that these teachers are willing, even eager, to include the study of agricultural topics in their courses and ask, "What do I teach and how do I integrate instruction about agriculture into my instruction?" Providing instructional materials on agricultural topics will answer their questions. In addition, agricultural educators must make contact and work with publishers of textbooks and teaching materials, seeking their cooperation in incorporating agricultural concepts into the content of these teaching materials.

Role of State Department Personnel

State department personnel in charge of monitoring instruction about agriculture must work with those in charge of certifying teachers to make the study of agriculture a part of the teacher certification requirements and recognize that agriculture courses are applied physical, biological, and social science courses that can be used to meet certification requirements in other educational disciplines.

Summary

The agricultural education profession is at the fork in the road. The choice of which path to follow is clear. The profession can choose training for employment--serving the needs of a few students, avoiding

its responsibility in developing agricultural literacy on the part of all students and society, continually struggling to keep program content abreast of changes in rapidly-changing, highly technical occupations in the agricultural industry, and continuing to place the fate of such instruction in the hands of Congress.

In contrast, the profession can choose to take the other path and provide instruction about agriculture--developing an understanding of the importance and contributions of agriculture on the part of all students and society, structuring the program around the real educational needs of students, teaching agriculture as a basic and applied science, developing practical skills that the learner can use to seek out employment in agriculture or use in other life endeavors, and establishing instruction about agriculture as a legitimate, indispensable part of the public school curriculum. As McCormick and Cox so aptly stated, it is time that "the profession lead the profession" and lead down the latter path.

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(McCormick and Cox--continued from page 2)

provided in the general education curricula of the public schools. In 1877, J. R. Buchanan, a prominent educator speaking at the National existing and emerging occupations in agriculture, in order to serve a broader clientele group.

Furthermore, there are those who believe merely changing the name of the program from "vocational agriculture" to "agricultural education" will solve all the problems (National FFA Organization, 1988b).

Using the above cited points as a focus, it is obvious the profession needs to debate the topic of "Purpose and Delivery of Instruction in Agriculture." This article supports the position that the purpose of vocational education in agriculture is primarily for preparing people for careers in agriculture including entrepreneurship and/or seeking further education in agriculture. Furthermore, the authors take the stand that the purpose of instruction impacts the delivery system.

The Historical Perception

A brief flashback to establish why vocational education, in general, and vocational education in agriculture, in particular, came into being appears appropriate. It is easy to document the educational mission of vocational education programs in agriculture as a part of public education at the secondary school level in this country (U.S. Department of Health, Education and Welfare, 1966). Since as far back as the beginning of the 20th century, vocational education has been identified with economic development. "The Federal role in vocational education was prompted by concerns of industry in the early 1900's that skilled workers were necessary for the growth of the economy" (Gulton, 1988). Assistant Secretary of Education Gulton (1988) further points out the American Federation of Labor in 1907 commissioned a study which pointed out federal legislation was necessary to provide education for industry workers and to meet employment needs. As a result, the Smith-Hughes Act was passed in 1917 to provide the first federal financial assistance for vocational education.

With the passage of the Smith-Hughes Act began a continuous, unbroken line of federal-state-local cooperation in vocational education. This act established vocational education as an integral part of the American educational system (American Vocational Association (AVA), 1971).

In 1950, Public Law 740 was approved by the 81st Congress of the United States (Phipps, 1980). This law created a corporation by the name of Future Farmers of America and established, from a federal legislative point of view, the relationship between the FFA and the U.S. Department of Education (originally the U.S. Department of Health, Education and Welfare). It tied the FFA to federal vocational education legislation as well as spelled out the purposes of the National FFA Organization. It also allowed the creation of the many subsidiaries of the FFA such as the supply service and the FFA Magazine. This law provided for the use of federal resources to be used to provide federal leadership for the National FFA Organization (National FFA Organization, 1988a).

Subsequent federal acts expanded the concepts of the Smith-Hughes Act by amendments to strengthen and expand the economic base of the nation, develop human resources, reduce unemployment, and strengthen the nation's defense (AVA, 1971). When current legislation is reauthorized in 1989, the federal emphasis upon vocational education for economic development will likely be maintained.

In summary, since its inception as a federally-assisted program, vocational education in agriculture has addressed, as its primary purpose, the preparation of people for careers in agriculture to assist economic development for this country.

Broadened Mission

There is a "creeping tide" in the profession to substitute the term "agricultural education" for the term "vocational agriculture." This gives the appearance of bringing reform to vocational education programs in agriculture. As stated in the October 1987 issue of The Agricultural Education Magazine, "if there is to be new and revitalized agricultural education in the public schools, education in and about agriculture must be a function of the total school system" (Warmbrod, 1987). "Education in agriculture" connotes those educational programs designed primarily to prepare students for careers in agricultural occupations. On the other hand, those programs which teach general education in agriculture, or "agricultural literacy," are referred to as "educational programs about agriculture."

General education is good for every student. It is taught to the level of understanding and appreciation. As such, "general education in agriculture," or "practical agricultural arts," or "agricultural literacy," or whatever terminology is finally used, should be good for everyone and taught to the degree where everyone understands and appreciates the value of agriculture to American society and the well-being of every citizen.

On the other hand, vocational education is not for everyone. It is more effective for those individuals who can use and benefit from this type of education. Vocational education is taught to the "level of doing" requisite to secure, hold, be productive and advance in an "occupation."

The authors recognize why many of their colleagues advocate broadening the mission of the current program of vocational education in agriculture to include educational programs "about" agriculture. The need to increase enrollment at a time when enrollment in vocational education programs is declining is recognized as a viable solution. The agricultural education profession, however, must not be seduced and fall into the same dilemma home economics did in the 1970s when it established "gainful home economics" (education in home economics) and "useful home economics" (education about home economics) programs in an attempt to broaden its mission. It is interesting to note those who advocate change fail to explain how such change can and will be implemented and still maintain the "time proven" instructional program model.

It is the professional opinion of the authors that a broadened mission of vocational education in agriculture to include both vocational education (education in agriculture) and general education (education about agriculture) will further threaten the maintenance of vocational agriculture programs at the secondary school level. Some of the reasons why the authors believe this are presented below.

Implications and Consequences

The question must be asked, "What are the implications and resulting consequences arising from a broadened mission which extends beyond preparing people for careers in agriculture to include other aspects such as practical agricultural arts at all grade levels?"

Implication #1: Federal Presence for Vocational Education in Agriculture

Earlier in this article, the role of the federal government in the delivery of vocational education in agriculture was discussed. Since instructional programs "about" agriculture are, by definition, not vocational education, it is clear that federal funds for these programs from existing or proposed federal vocational education legislation will not exist. Federal presence does not mean only money. Although funds are important, the federal-state-local partnership is of more significance. Likewise, what would happen to the impact and intent of specific legislative action such as P.L. 740 if vocational education programs in agriculture begin delivering general education in agriculture as part of their mission?

The profession must not overlook the power and influence of federal leadership (and presence) upon public education in this country. From a fiscal standpoint, federal funds have a multiplier effect. Federal dollars generate state and local support for vocational education programs in agriculture.

Consequence #1: Elimination of Federal Presence Would Threaten Further the Maintenance of Local Vocational Agriculture Programs

Would the elimination of federal presence for programs of vocational education in agriculture create a threat relative to the maintenance of vocational agriculture programs at the secondary school level? The authors believe so. There is a need for federal leadership as a unifying force in American education today. It should be remembered federal leadership for the National FFA Organization is provided currently through the auspices of P.L. 740.

Federal policy for public education affects what state legislatures do, which in turn has a direct influence upon local programs. One only needs to reflect upon the impact of the U.S. Department of Education study, A Nation at Risk (1983), to ascertain the influence this report has had upon educational reform in public education in the United States. Educational reform has meant "more education, not necessarily better education." Consequently, "more education" has resulted in less access to vocational agriculture for students. Limited access has caused vocational agriculture programs to close, or make teachers of vocational agriculture teach other courses to assure full-time employment.

Implication #2: Teaching and Funding "Education About Agriculture" Courses (practical agricultural arts at all grade levels)

Assuming there is an urgent need to provide instruction "about agriculture" in the public secondary schools of this nation, who will teach the "education about agriculture" portion of the curriculum? How should and will these programs be funded? If other teachers integrate the concepts of agricultural literacy into their existing courses, is this a part of "their" curriculum or a part of "our" curriculum? If agricultural literacy is taught as a separate course, should it be taught by an "agricultural" teacher? If not taught by an "agricultural" teacher, is it still part of the vocational agriculture curriculum? Who will provide funds to local educational agencies to offer these programs?

Consequence #2: "Education About Agriculture" Programs Should be Taught and Funded as General Education, not as Part of Vocational Agriculture

It is the authors' conviction that "agricultural literacy" should be available for students, but it must be conceived and delivered as part of the general education curriculum, not as part of the vocational agriculture curriculum. However, is the general public ready to accept these programs as part of general education? How many local school boards will be willing to fund programs "about agriculture" as part of the general education curriculum in lieu of math and science courses deemed desirable as part of the educational reform movement? Probably very few! It is obvious the "practical agricultural arts" programs must be approached as innovative instructional programs, not as instruction duty added to the existing job of the teacher of vocational agriculture. It is the belief of the authors that to carry out this new mission in education (not a broadened mission in vocational education in agriculture) there must be a new and different cadre of teachers prepared and employed to deliver this new educational program offered as a part of the total school system. However, in small high schools where insufficient numbers of students exist to provide for a full-time vocational agriculture program, a teacher could be assigned this instruction in lieu of teaching general shop, science, or other general education courses. But if this were to happen, these courses must be part of the general education curriculum. There must be a "separation of program types" (general and vocational) in order to maintain quality programs of each type.

Implication #3: Maintenance of the Present Instructional Program Model

There are those in the profession who believe the present instructional program model is outdated and in need of dire revision. Others believe the needed changes can be achieved by merely changing the name of the program.

The model referred to herein connotes the instructional program which provides specialized preparation for specific agricultural occupational clusters encompassing classroom/laboratory instruction, leadership development (FFA) and supervised occupational experience (SOE) programs (National FFA Foundation, Inc., 1984).

It is the belief of the authors the instructional program model is as educationally sound today as when it was conceived; the only changes needed are in the content (subject matter) taught and the emphasis placed upon preparation for existing and emerging occupations in agriculture.

This belief is supported strongly by Rosenfeld (1987) as follows:

It's not often that one can look backward to find a model for the future. But rural education has a too well kept secret in vocational agriculture, a program that may be the nation's most effective model for meeting the skill needs of the emerging economy.

A re-emphasis upon curriculum content must stress the application of agricultural, biological and physical science, and management (economic) principles. At the same time, the curriculum must reinforce the basic skills of communication and computation as it relates to satisfying students' needs from developmental, occupational and social standpoints.

Consequence #3: Loss of Instructional Program Model Could Destroy the Effectiveness of the Educational Program in Vocational Education in Agriculture

A broadening of the mission of vocational education in agriculture by incorporating "education about agriculture" programs would hinder the effectiveness of various components of the instructional program model, especially FFA and SOE. It would be difficult to maintain quality programs in vocational agriculture if the instructional program model was modified.

The effectiveness of FFA and SOE as teaching tools in vocational agriculture programs is well known. However, to utilize these teaching tools in general education programs in agriculture would not be effective without major changes and adjustments being made in the purposes, educational intent and the manner in which they are utilized and delivered. To make FFA and SOE, as currently utilized, fit the needs of students who might enroll in "education about agriculture" programs would decrease, if not destroy, their value for students enrolled in vocational preparation-type programs due to the loss of "occupational orientation and emphasis."

The value of FFA and SOE has been the result of a "program approach" which extends over time. It is questionable how effective these teaching tools would be if utilized on a "class approach" such as a semester or nine-week class. Such short-cycle courses or the "open entry--open exit" concept do not permit sufficient time on task for students to develop practical skills germane to specific agricultural occupations. In essence, a program promotes "continuity over time" which is essential to meet students' developmental and occupational needs.

Implication #4: Continuation of the Instructional Delivery System Which Utilizes the FFA Organization and the SOE Program

The effectiveness of the current instructional delivery system could not be maintained with the broadened mission since the educational relevancy would be reduced and the "occupational orientation" lost. Educational programs which stress understanding and appreciation do not require delivery systems utilizing FFA and SOE which advocate application to occupations.

If the instructional program model cannot be maintained, it stands to reason the delivery system cannot, likewise, be maintained. Those components such as FFA and SOE which require more teacher and more student time will be, in all probability, "short changed" by the teacher and avoided by the student enrolled in a general education program in agriculture. These components will not "lead anywhere" for the general education student. Thus, the effective but "time consuming" components of FFA and SOE, which have made programs of vocational agriculture so successful in the past, will not be utilized as effectively and, over time, will be lost.

The hallmark of the FFA organization has been its ability to involve and motivate students due to its numerous and diversified activities at the local, state and national levels. It is one of the most effective teaching tools ever devised in the annals of public education in this country to motivate and involve students in their own learnings.

Likewise, the SOE programs, properly utilized, provide students with the opportunity to meet many of their developmental, educational and occupational needs.

Consequence #4: Loss of FFA and SOE Would Impact Negatively the Delivery System of Vocational Education In Agriculture Programs

It has been the FFA organization and the SOE program which have characterized the effectiveness of vocational education in agriculture programs to produce "occupationally-competent" students who possess the economic skills essential to become employed if they desire. These two components have contributed to the "vocational" dimension of the program. It is SOE which makes vocational agriculture vocational. It is the FFA and SOE which, if properly utilized, assist in meeting the individual needs of the students. Without these components in the instructional program model, individual student needs are usually not addressed; teaching tends to be directed at the average student in the class, not the individual!

The question of placement is a critical concern in this debate. Preparing students for careers at the secondary school level is considered to be a moot point by many in the profession. They contend students at this age cannot identify occupational goals let alone secure those competencies necessary to gain entry into the world of work.

Two examples are cited which refute this contention. In Arizona, the placement of high school students who completed three or more years of vocational agriculture averaged 46.9% one year after completing a vocational agriculture program. The placement percentage increased to 66.9% for those program completers who had held one or more agricultural jobs during the five years following high school graduation (Zurbrick, 1988a, 1988b). In Ohio, the state director of vocational education mentioned that the January 1, 1987, status of 1986 program completers showed 92.5% were gainfully employed seven months after they completed a vocational education program. Of more consequence, 74% were working in the area of their training (D. L. Parks, personal communication, June 23, 1988).

The reduced use or disuse of FFA and/or SOE as teaching tools would render instruction in agriculture much less interesting, effective and beneficial to students. It is difficult to envision how these two teaching tools can be maintained in instructional programs "about" agriculture unless there are major adjustments, since the primary purpose is only to develop understanding and appreciation.

If the delivery system which utilizes the FFA organization and the SOE program is not maintained, then the national, state and local structure of the FFA is no longer necessary. Should this structural demise result, those who are fearful of tampering with P.L. 740 have nothing with which to be concerned.

Educational programs which involve and motivate students and, at the same time, help satisfy student needs will usually be readily accepted by students. Unless there are activities like FFA and SOE built into educational programs to involve and motivate students and make their education relevant, students will usually not participate.

In addition, what would happen to year-round programs and extended contracts of teachers if FFA and SOE were not part of the instructional delivery system? In all probability, the loss of SOE and FFA would mean the loss of extended employment for teachers. Without the incentive of year-round employment, what would happen to the quality of the program?

Furthermore, the profession has advocated that certain program standards (Iowa State University, 1977) be employed to help assure quality programs. Some of these standards are transportation for

on-site supervision and follow-up; supervisory period provided during the contractual school day; reducing student numbers per teacher to provide for adequate supervision of FFA and SOE activities; community-based instruction based upon students' occupational goals, to name a few. If a delivery system involving the use of FFA and SOE was not available, what is the probability of maintaining these program standards? Probably very low.

Summary

The primary purpose of vocational education in agriculture, at the secondary school level, should be to prepare people for careers in agriculture including entrepreneurship and/or for seeking further education in agriculture. If "agricultural literacy" is important for an educated citizen in today's and tomorrow's society, educational programs of this nature should be provided as part of the general education curriculum, not as a part of the curriculum in vocational education in agriculture. However, it would be quite ludicrous to believe local boards of education would approve funding and staffing for agricultural literacy programs in view of tight economic conditions currently prevailing in public education.

It is the belief of the authors that "education in agriculture" and "education about agriculture" programs have two distinct missions and functions in the educational process and should not be mingled together in an attempt to broaden the mission of existing programs of vocational education in agriculture. Too much effectiveness would be lost; the quality of programs both "in" and "about" agriculture would be reduced. It would be a dangerous move in the light of the emphasis currently being placed upon basic academics to advocate that vocational agriculture become involved with general education.

Programs stressing "education about agriculture" (practical agricultural arts) must be delivered through a different mechanism or mechanisms than vocational agriculture since the mission of these programs is different. New instructional programs will require new mission and goal statements, new instructional program models, and new delivery systems.

"Education in agriculture" programs should be delivered by qualified vocational agriculture teachers, utilizing the current time proven instructional program model encompassing FFA, SOE, classroom and laboratory instruction, and experiences based upon those competencies (knowledge, skills, attitudes) germane to the occupation or occupational clusters for which the students are being prepared.

There is too much at stake and too much to be lost if current vocational education in agriculture programs are tampered with by merely changing a name or expending the mission without making major adjustments and changes. As Warmbrod (1987) so succinctly stated,

Changing titles of courses from vocational agriculture to agricultural science or agricultural technology, substituting the words "agricultural education" for "vocational agriculture" and modifying the name, contests and constitution of the FFA are attractive temptations. . . . Likewise, only cosmetic alterations in the name, ceremonies and creed of the students' organization does little to change either the perception or the reality of the "Future Farmers of America."

As Rosenfeld (1987) noted, "Vocational agriculture [is] so often perceived as outdated but in reality [is] underrated." What is really

needed is to "improve the image of vocational agriculture!" Perhaps this improvement in image should be initiated by the National FFA Organization. The FFA is the showcase of vocational agriculture and could make major improvements in image by eliminating selected "production agriculture-oriented" contests and activities. Let's work to improve the image by changing the instructional emphasis from "cows and plows" to instruction which stresses those competencies associated with existing and emerging occupations in agriculture. If we do this, the mission will take care of itself!

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