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Curriculum for Vocational Agriculture

Department

Name of Course

Featuring CURRICULUM CHANGES
The Agricultural Education Magazine

Volume 29
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Number 1

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Editors

Wanted: A Theory of Curriculum Development

The curriculum for vocational agriculture in the high school is a popular activity. Sometimes the leader in suggesting revisions adds that there is considerable urgency in making the changes that he is suggesting. As a leader, I am not suggesting that before any curriculum is developed that we must have a complete, theoretical statement of theory and philosophy of curriculum. Just the opposite. It is futile to attempt to pin down. It seems clear that any curriculum in any vocational program should have a rather close relationship to occupational education for these enrolled in the program. So, one of the first areas to be examined is the contribution to the occupational education that is to be expected from the high school program. This can be studied from the question of content as well as behavior changes expected of these enrolled. Ralph Tyler's two-dimensional approach to curriculum development under this program development. Howard Martin, University of Connecticut, has made effective use of Tyler's theory in working with teachers in Connecticut on curriculum development and writing this dictionary in the same way as any other dictionary through the years. The educational engineering technology is a new one, while Wiggenhausen's is not in the same field. The dictionary is out of print. Another interesting change is that the relation of all vocational education to agricultural occupation and specific industry is diminishing. For example, while farmers may still be the principal users of farm equipment, there is an increasing use of electronics in farm equipment. In areas, technology cuts across other specialized areas.

Wanted: a theory of curriculum development. This suggestion is strong, but not unique. The national FFA officers are fully capable of assuming more leadership responsibility and should demand this. An interesting change is that the relation of all vocational education to agricultural occupation and specific industry is diminishing. For example, while farmers may still be the principal users of farm equipment, there is an increasing use of electronics in farm equipment. In areas, technology cuts across other specialized areas.

Why does the adult advisor of FFA know nothing of national--his advising with such a heavy burden? I believe that the national FFA leaders are capable of assuming more leadership responsibility and should demand this. An interesting change is that the relation of all vocational education to agricultural occupation and specific industry is diminishing. For example, while farmers may still be the principal users of farm equipment, there is an increasing use of electronics in farm equipment. In areas, technology cuts across other specialized areas.
Did you think that Ford Motor Company was broke? No, Ford makes refrigerators and other things. But that's not their business. Maybe you see the full-page ad where they declare, "You see, the real bottom line is the new ideas—the driving ambition."

By the way, what is our driving ambition?

How do you like the thumbnail summary at the beginning of an article? Let me know. I don't mean this if you like it, or save the time and space if you don't.

Thank you for sending in your articles. Of course we shall copy them and read them carefully and pretty closely. So are my comments:

What did I say from my Professional Magazine?

1. First I want to say that this is happening in my profession. Who is retiring, who is appointed, who is doing what. Are my comments being adopted yet? (Actually within the last state position.)

2. I believe in the future of agricultural education. What are the aspirations for the importance of Vo-Ag? I would like to see it before I graduate and after reading the Agricultural Education Directory (Perhaps some more stories on how we have been honored for their excellent work by their communities and states.)

3. I expect the professional magazine to challenge us to do a better job. To help us understand the urgency to study, learn, grow, and improve.

4. I want to use the Professional magazine to give me help. Ideas, suggestions, as in the past, and send them to me in my position.

5. I believe, in my opinion, be a place to be heard. I think that we need to exchange ideas on trends, issues, and problems. It is a magazine to be ready and interesting.

To all of us ("the Agricultural Education magazine") has been a good experience. We have been busy in the past to get a job done. I expect you to make that possible. I'll write articles for you, to help you better understand us.

Thanks for a fine job as editor.

Sincerely yours,

RAYMOND AGAN, Teacher Education, Kansas State University

Vocational Education: A Continuing Problem

R. H. Goldin, Jr., Education Editor, A. G. Richardson High School, Louisburg, Missouri

Teaching Systems versus Projects

What and How To Teach A Continuing Problem

R. H. GOLDIN, Jr., Education Editor, A. G. Richardson High School, Louisburg, Missouri

Teaching Systems versus Projects

In the last issue of this magazine, I asked the question, the question of how to teach in order to accomplish our objective, that we shall educate the students to the best of our ability. Several readers wrote in, saying that vocational education is a continuing problem.

In this issue, I wish to ask another question: "What is the state of vocational education?" I wish to ask this question because I believe that vocational education is a continuing problem.

Raymond Agan

H. H. Goldin, Jr., Education Editor, A. G. Richardson High School, Louisburg, Missouri

Outstanding because of our failure or unwillingness to alter the system of industrial and technical education of our youth, the challenges of this highly industrialized society and technical age.

Educational systems must use the authentic laboratory approach to accomplish our goals. The authentic laboratory approach, beginning with a statement of the problem, then the objectives, the materials needed, the steps involved, then the evaluation of the project or material often it is important to repeat the exercise or practice to extend the nature of the project. We need to design our instructional programs in vocational education to meet the needs of today's industry. We need to design our instructional programs to meet the needs of today's industry.

We need to prepare our students to be leaders in their fields. We need to prepare our students to be leaders in their fields.

Because of the limited knowledge in our field, we need more time to do the job required. Because most school administrators have a tight schedule, granting the time allotted for the training of our students in vocational education is almost non-existent. The time that is allotted for vocational education instruction is in direct proportion to the expiration of new knowledge and industrial and technical progress. Therefore, we must use the time allotted for vocational education instruction in a manner that is consistent with the new knowledge and industrial and technical progress.

We must be aware of the importance of what we are teaching and the need to use the time allotted for vocational education instruction in a manner that is consistent with the new knowledge and industrial and technical progress.
Curriculum for the World of Work

RICHARD BAKER, Teacher Education, Auburn University, Alabama

The theory and practice of curriculum and teaching are illustrated for programs in the world of work. Some specific curriculums are presented. It is suggested that the big problem is to keep curriculum and teaching in line with the rapidly changing needs.

It is generally agreed that a positive attitude and approach toward program planning is necessary if the high school program of vocational agriculture is to keep pace with the rapidly changing needs of the progress during the past few years to update vocational education curricula at the high school level, many schools are still out of date with the changes in industry and socioeconomic structures of their respective communities.

It is also a recognized fact that the job opportunities for people with an agricultural education, and to some extent, a farm background continue to be the norm. A vast number of these jobs in agricultural businesses and industries do not need to be filled with persons with baccalaureate degrees.

The Vocational Education Act of 1963 amended the previous education acts to permit vocational agriculture to include educational programs involving the knowledge and skills needed by persons engaged in off-farm agricultural occupations. In no way was this amended intended to minimize the importance of developing the skills needed by persons engaged in producing agriculture. Adjusting old, and designing new curricula in vocational agriculture is inevitable if the program is to be effective and to deal efficiently with the dual functions of providing vocational education both on-farm and off-farm agricultural occupations.

Generally, there are a number of curricular approaches that educators in vocational agriculture could use in planning local instructional programs. Several approaches are under consideration in many of the States, and in some cases are already in operation.

The most common curricula approaches are: (1) basic courses in agriculture with an instructional orientation toward the production of crops and livestock, and (2) multiple-track courses involving common skills and abilities needed for classes of agricultural occupations.

Production Oriented Curriculum

Some educators in vocational agriculture believe that the best basic education for off-farm agricultural occupations is to do the best job possible in preparing students for production agriculture. This production-oriented approach is highly specialized skills and technical abilities needed for high school programs and/or on-the-job training.

Figure 1

Related skills and abilities for the high school program

Highly specialized skills and technical abilities for post-school programs and/or on-the-job training.

Figure 2

An analysis of research studies conducted by states during the past two years reveals several thousands of professionals in eight major fields of agriculture, and related technical and professional occupations. Obviously, the high school program of vocational agriculture can do very little in providing specialized instruction for a large number of occupations, or even for clusters of these occupations. Therefore, teachers should attempt to adjust their programs by applying the common elements approach. The planning process is an expansion of what has been described for multiple-track curricula. The teacher in a multiple-track department, interested in providing instruction for one economic activity (Option 4, Figure 2), is concerned only with the occupations within that occupational category (Figures 3). The teacher in the single-agriculture department, recognizing that occupations within categories are related, extends the
Curriculum and Teaching

It can be seen from the foregoing discussion that organizing a common core of education for all students will involve not only a great deal of planning, but also planning during the educational process. Curriculum construction and improvement of instruction are elements in the same system. Changing the curriculum from the production oriented approach to the common elements approach does not itself improve teaching.

There are many process-related problems associated with curriculum and teaching. No attempt will be made here to present an exhaustive list of these problems. But, no attempt will be made to reveal, rather indirectly, some of the larger problem areas, and to suggest ways of approaching them by including some related propositions that may have a bearing upon the implementation of a common elements instructional program.

Related Propositions

Proposition 1: Job aspirations, interest, and experiences are not adequate assessment of job qualifications or job opportunities.

Proposition 2: Vocational education programs should be developed based on the basis of the number of students who enter agriculture, but rather on the basis of the work which the programs render to the students in the form of educational experiences suitable for occupations.

Proposition 3: While the mental ability of the early age adolescent can be appraised for estimating the appropriate amount and level of vocational education opportunities, the school instruction can capture additional values for the student and can facilitate this progress from student life to occupational life. Achieving the potential values of work experience education depends upon a number of school variables. A plan for program coordination, whereby the school and business cooperate to work together in planning a program that is related, feasible, and dynamic, is of primary importance.

Postscript

There are many guidelines to be considered by the teacher in his continuous effort to improve his instructional program. The questions associated with curriculum and teaching are not easy to answer. No instructional program can accurately prepare students with regard to the total occupational growth. Growth in teaching should be sufficient to prepare the individual for occupational growth and with a willingness to acquire new skills is the best vocational education that is possible for the high school.

The AGRICULTURAL EDUCATION MAGAZINE, July, 1966

Richard A. Baker
(Continued from page 7)

Common Elements
Pre-Vocational Courses
(First Phase)

Proposition 5: Pre-vocational courses designed to develop new interests in students and to further define the existing interest of students should be offered in high schools. These courses should assist students in discovering and understanding their capabilities and limitations and also to acquire some occupational insights into the world of work.

Proposition 6: Effective teaching in vocational education depends primarily upon observation, fact acquisition, and actual participation in work experiences on the part of the student.

Proposition 7: Teaching "about" and "for" agricultural occupations are essentially different aspects of instruction. Teaching "about" occupations falls under the scope of occupational guidance, while teaching "for" occupations deals with occupational competencies. Because they are two different aspects, the teacher's approach and emphasis must be directed accordingly.

Figure 3

Related skills and abilities for the high school program

Figure 4

Themes For The
Agricultural Education Magazine
October-December, 1966

Common elements courses for several occupational categories

Common elements courses for an occupational category

OPtion 1

OPtion 2

December

ADULT EDUCATION GETTING LOST IN THE SHUFFLE?

Are we still in the business of adult and young farmer education? Is time allotted for this purpose? Full-time teachers of adult education get reports of success stories. Adult education in agriculture for other groups as well as farmers—agit-business, industry, urban groups.

November

OUR CHANGING ROLE

Are we in Vocational Education, Agricultural Education, Vocational Education, or Occupational Education? Educational leaders or agricultural specialists? Examine the changing role of the teacher, the supervisor, and the teacher educator.

December

COLLEGE PROGRAMS FOR PROSPECTIVE TEACHERS

Do we have a Model T or 1967 Model Program? What are the major objectives of the undergraduate programs? What are the objectives consistent with the demands placed upon the beginning teacher? What responsibilities do we have for the student going into other agricultural education positions?
Base Occupational Courses on Job Analysis

CHARLES C. DRAUGBAUGH, Teacher Education, Rutgers University

Job analysis is not making a job study, the writer says, but an essential first step that goes with every operation for doing the job, including the usual job analysis. "Analysis of the student" is included with job analysis.

An Expanded Program

The Vocational Education Act of 1963 provided for the broadening of vocational education in agriculture. Educators are no longer intimately familiar with all the occupations that are changing. Preparing a course of study for off-farm agricultural occupations that much more complex than preparing one for traditional vocational agricultural courses at a high school. The reason is that the market for such courses must be analyzed before one is secure in writing course outlines. The Vocational Education Act of 1963 stimulated state research studies to determine the data on the economic status and educational needs of the individuals who are engaged in off-farm agricultural occupations. The outcomes of these research studies which are classified as "prospectively-oriented" are used by vocational educators in the development of job analysis for selecting students, and as a basis for student counseling. Thus, the market for the course is analyzed before one is secure in writing course outlines.

Developing a Course of Study

The necessity of becoming acquainted with the nature of the agricultural occupations to be taught in the new courses is emphasized in this and many other publications. It is probably the responsibility of the teacher to become acquainted with the nature of these occupations. One of the best ways of doing this is by preparing a course of study. A course of study for the establishment of a teaching program in agricultural occupations may be prepared in any of two ways: (1) the teacher may use a textbook that is available, or (2) the teacher may develop a course of study for the purpose of teaching the new course. The teacher should decide which of these methods is the best for him and then develop a course of study for the new course of study. In this way, he can prepare a course of study that is appropriate to the needs of his students and the community he is serving.

Horticultural Retail Sales Occupations

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|letter to editor

Dear Sir:

I believe that everyone has a right to the defense of the term "modular" which they have been struggling for years to make a household word.

The What-Is-It Foundation of the Center for Vocational and Technical Education, Ohio State University, shortly after the decision had been made to use this term in some of its reports, had this to say about the term Modular:

"The term Modular may be defined as a unit of study or a course unit in any of several forms. A modular unit may be an entire course in theagricultural program or a new program in an area of study, or it may be a program in an agricultural, home or community field. It may be a program of study in agriculture, horticulture, or agricultural marketing.

There are advantages in the preparation of modular materials. Where a modular unit is used several students can work together, but a variety of skills is at least suggested. A modular unit is long on variety and flexibility. It can be used to meet the needs of students who have been trained in certain areas.

I believe that everyone has a right to the defense of the term "modular" which they have been struggling for years to make a household word.

Thank you very much for considering this issue.

M. H. Hsinau

Cyclic Man, Inc.

Dear Sir:

I want to write to commend you on your recent article on the use of the "modular" term. It is a positive and innovative approach to education, and I believe that it will be widely adopted in the future. As a teacher, I have found that it is an effective way to engage students in learning and to help them to develop critical thinking skills. Thank you for your commitment to this important issue.

Sincerely,

B. H. Smith

Cyclic Man, Inc.
Choice of Curriculum Made Possible

LARRY L. SALTER, Yo Ag Teacher, Waveland, Iowa

Here is a plan for giving students more choice in their maJor preparation in the vocational agriculture program. Details of how the curriculum choice is made possible are given.

For several years I have noted that vocational agriculture graduates had been dividing themselves equally into three areas of vocational choice: farming, off-farm agriculture-related occupations, and careers in technical agriculture with college training, etc. It seemed to be a logical guideline in establishing a curriculum for the expanded vocational agriculture department, with these options being made available to each vocational agriculture student: (1) educational agriculture and forestry, (2) vocational agriculture and off-farm agriculture-related occupations, and (3) vocational agriculture in preparation for advanced technical education in agriculture.

How Program Operates

As to the operation of the vocational agriculture curriculum, freshmen and sophomore vocational agriculture students are given basic background instruction in related topics, such as the area of modern agriculture and crop production. However, since no supervised practice program might be instituted in an off-farm situation. The vocational agriculture instructor coordinates his supervisory visits to the student. During the sophomore year, complete cooperation with the vocational agriculture instructor and guidance counselor, the student would have the opportunity to make a choice as to the curricular option he prefers. Of course, close contact is maintained with the present at all times. Beginning the junior year, students will actually be meeting in classes of their special interest. Juniors and seniors meeting together.

As to the actual breakdown of the classes, credits received, periods met, and overall class patterns, please consult the diagram shown at the right. Perhaps the newest innovation in this pilot program is the option of the off-farm agriculture-related occupations training. While students have been fitting into these areas very successfully for many years, as vocational agriculture graduates, it does seem advisable to try to make this offer if possible, allow them to be grouped even more specifically by interest than what has been possible in present programs. Juniors and seniors in the off-farm agriculture-related occupations offers more time to be able to choose a class for one period a day for related instruction. As the student becomes ready, the last two periods a day they are placed in a business of their choice. Also, during the junior year some off-farm-related vocational agriculture choices are offered, which will be made in class on an individual basis. The

Teaching Meats in Ten Easy Lessons

RAYMOND J. AGAN, Teacher Education, Kansas State University

Teaching meats can be a pleasant and meaningful experience for the instructor. Many teachers who are not familiar with the meat industry are often hesitant to incorporate meat-related lessons into their curriculum. Here are ten easy lessons that can be used to introduce students to the world of meat.

Lesson #1: Introduction to meats—definition of meats

Lesson #2: Beef and lamb carcass and retail cuts identification

Lesson #3: Pork and veal carcass and retail cuts identification

Lesson #4: Field trip—meat processing plant

Lesson #5: Introduction to grading

Lesson #6: Lamb grading

Lesson #7: jig over grading

Lesson #8: Final field trip and/or final testing.


Instructor and students agree that the meat industry is just as much fun, if not more so, than live animal judging. If done correctly, the grading, and identification is much more exacting and is not subject to individual differences of opinion. Young teachers who have never taught meats have a great time in store for them as well as their students when this meaningful learning experience is added to their vocational agriculture curriculum.
Guidelines Are Basic

HAROLD BINKLEY, Teacher Education, University of Kentucky

Guidelines for educational programs usually cause concern. They are cast as final and viewed as constraining the creativity and special insights that are so necessary for educational programs that are to be adopted. Programs that are to provide training in new agricultural techniques need to be extremely sound and must be of high quality. Preciseness must be achieved in the methods that are to be employed, the programs that are launched.

In a sense, therefore, one can guide-should suggest here are steps to procedure for developing programs in new agricultural occupations. There is some overlapping in the list.

1. Keep in mind the pattern of instruction in vocational education. The pattern of instruction must be one that will develop the technical and creative skills of student farmers, but it should not be so rigid that the innovative and creative things that the students develop can be stifled.

2. Provide leadership in the program. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

3. Plan a program that will provide leadership in the program. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

4. Plan to provide leadership in the program. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

5. Develop the program and get the program started. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

6. Plan a program that will provide leadership in the program. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

7. Plan to provide leadership in the program. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.

8. Develop the program and get the program started. The program should be one that will encourage leadership and provide the teacher with opportunities to develop leadership. The teacher will have to develop the technical and creative skills of the students, but he must also develop the leadership skills of the students if the program is to be successful.
Shop Awards Program Stimulates Good Work

THOMAS R. STITT, Graduate Student, Ohio State University

A Shop Awards Program was given the purpose of stimulating vocational agriculture students to realize the importance of individual effort and to develop good work habits. The program was sponsored by the Lincoln School Foundation.

As Vocational Agriculture teacher in Franklin, Kansas, the writer undertook the responsibility of instructing in the teaching of agriculture mechanics. The program was given to the mechanics of farm boys living on productive farms with corn, milo and silage crops. Corn and silage silos were the major production enterprise. The students needed welding for building maintenance and repair of livestock and crop production equipment. It was in this setting that I became aware of the tremendous value which I could make of the Lincoln School Shop Award Program.

More recently, I have found that other Vocational Agriculture teachers in other states have also become enthusiastic about this program. Norman H. Allen, Agriculture Mechanics teacher at Tullahoma Union High School, Tennessee, says this program is the most beneficial I have found in shop teaching during my thirty-one years of teaching. Dale Ponton, Vocational Agriculture teacher of Mt. Vernon, Missouri states, "It is highly valuable in promoting quality workmanship in all welding as well as stimulating the areas of organization, drafting and writing."

James L. Pollen, Vocational Agriculture teacher at Heflin, Alabama, says in addition to welding skill which student learns, "...provides training in writing, drawing and spelling with the written word."

The Program

The Lincoln Foundation School Shop Award Program is sponsored annually by the Lincoln Arc Welding Foundation with a total of $15,000 to be awarded nationally. An entry is prepared by the student and entered into a classification on Farm, Shop, or Home and Recreational. Each school which has a participating student should discuss with the students how their project will be done and at least one clear photograph, illustration or drawing of the project should accompany the entry.

The key to enthusiastic participation by the student hinges on two basic ideas which were: (1) It was a pri

The AGRICULTURAL EDUCATION Magazine, July, 1965

New Schedule Helps

DAVID N. ANDERSON, Principal, and Edward L. Hansen, Voc Ag Teacher, Pahranagat Valley High School, Almo, Nevada

A new schedule is to be used for the agriculture science program at Pahranagat Valley High School, Almo, Nevada. The program is designed for students who wish to pursue a career in agriculture.

The development of a daily schedule in high school agriculture is of considerable importance to the program, the teacher of agriculture. The program is designed to prepare students for college or a career in agriculture. The schedule includes classes in Vo-Tech Agriculture, Biology, Chemistry, and other courses related to agriculture. The program is designed to prepare students for college or a career in agriculture.
Small Gas Engine

A Nasty Miracle for Teaching

By LEE LAUJENESSA, Yo Ag Teacher, Costa Mesa, California

Based upon two years experience, it is easy to say that this teacher among small gas engine mechanics, the teachers have minimal knowledge. This is because small engines have not been taught in the typical curriculum, and students have little interest in them. However, small engines are essential for many agricultural tasks, and it is important for teachers to understand how to effectively teach their students about these engines.

One of the main goals is to provide an understanding of the basic principles of small engines. This includes understanding how they work, how to repair them, and how to maintain them. Teachers should also be able to demonstrate the practical applications of small engines in real-world situations.

In order to achieve these goals, it is important for teachers to have a strong foundation in small engine mechanics. This can be achieved through a combination of formal education and hands-on experience. Teachers should have a thorough understanding of the engine's basic components, as well as the principles of engine operation.

Another important aspect is to provide students with practical experience. This can be done through hands-on projects, such as building and repairing small engines. By doing so, students can gain a better understanding of how the engines work and how they can be effectively used.

Overall, teaching small engines is a complex task, but with dedication and hard work, it is possible to create a successful curriculum that will prepare students for the real-world use of these engines. It is important for teachers to stay up-to-date with the latest developments in small engine mechanics in order to provide students with the best possible education.

(Continued on next page)
**Training AIDS**

**Wanted: Better Communications**

CLAYTON RILEY, Director, Demonstration Center, Reidland High School, Podunk, Kentucky

This center is open to teachers, administrators and other interested persons to observe and receive programs. Reidland High School was one of the centers of the 1965 Vocational Education Act.

The local Vocational Education Center was conducting evening classes in distributive education. Yet, for several months the teachers did not know of any of the other programs in operation. Tragic, but true. What a waste of time and energy!

**How many of you do not know of the other vocational programs in your area? It is really hard to convey, but there are many people in all communities, not only in schools, but in industry, who are knowledgeable and more than willing to assist us with sound vocational programs.**

We have, to the last few months:

- Visited each of our departments
- Audited the classes of the other schools
- Reclaimed teaching materials and techniques
- Encouraged visitation by other members in our departments

Perhaps our best achievement occurred March 2, 1966, when we held a vocational educational workshops for all teachers in the area who were conducting or planning to conduct such programs.

In that attendance came from six counties and two states and included teachers of agriculture, home economics, guidance, distribution education, vocational education, trades and industry, and local administrators.

**Others**

How many of you do not know of the other vocational programs in your area? It is really hard to convey, but there are many people in all communities, not only in schools, but in industry, who are knowledgeable and more than willing to assist us with sound vocational programs.
Project Sheet Helps

One of the best devices to help popularize this philosophy is to use a project sheet as illustrated. Students want a plan to follow during project construction. The students will be working at different times, therefore, when each student has a plan he can progress at his own speed. It will be easy for him to select the materials as listed in the bill of material. Check the measurements on the plan and start to the project. Both the instructions and the procedure is briefly outlined for the student to be more efficient. He will acquire the ability to use tools for certain jobs and the understanding of different concepts. These understandings will transfer to other shop and work activities. As the student works on the projects the teacher will be reminded of these design principles, especially if study and discussion is conducted by the teacher in the classroom or laboratory before the construction process. The evaluation of the project will come upon its completion. It is much easier to understand and construct the project if he knows the standards by which it will be rated. An evaluation score sheet is included on the same sheet. As illustrated, the material used should be chosen in the philosophy of chemistry by selecting the materials students will be constructed of the project and the plan sheet home with the student. The parents can see that the student and the teacher will be following the fact that the hitch pin is not the most important item as real project, but rather the acquiring of ability to do and understanding of the concepts.

Two Dimensions

The critical elements of teaching methods which will influence the recall and use of facts, understanding (seem complex), applying (regulate for doing, control) and analyzing (evaluate decision for doing.) The teacher will be either induced by the method or behavior of the student. We have a task of correct understanding, effective and critical use, occupational opportunities and occupational experience. Vertically we have the objective of thinking, understanding and applying. The subject matter is used to convey the message which is to be followed by the sketch of teaching methods and the understanding the concepts and the underlying things the students are learning to do for us as industrial teachers-agriculture. It is important that we start where they are. By drawing diagrams and using other experiences of students, basic concepts may be established, which makes application clearer and understanding processes make it possible that decisions can be made. The quality of selected projects, problems and application made.

Basic Concepts

Basic concepts, such as growth, grow like axially rolled in wet snow as fast as they can yield to instruction. It matters not if the long run, if the area of technical subject matter we call "X" is not in the axially rolled in wet snow. Teachers, taught these three things well the student will through the variety of experience and the use and the well-used concepts, treat the development in the right order and when he is faced with needing in the logical sequence, subject matter must be carefully taught, but it cannot be taught. It is a matter of patience.

Some Examples

The example given has not continuously been taught in the vocational agriculture programs of Kansas yet. It is an introductory chapter of the next shall be given. We should know how the teacher selected and in a cotton growing area, how he would use the same concepts in his practical experience. He will know the techniques and knowledge which he would have learned to accept, analyze, and apply. The three "A's" of knowledge-acquiring, analyzing, and applying-combine with basic concepts resulting from worldwide educational experiences, becomes the key to success of educating youth for world of knowledge now and strange to them. Another example comes in the area of occupations. Assuming the average work in agricultural economics changes jobs seven times in his career, an important part of the educational process becomes the teaching of the ability to acquire information at the appropriate point about new unknown occupations. The functional analysis both the occupation and self for compatibility and decide whether the self has the ability to apply his traits toward success in the occupation under consideration. This is a different objective than creating a pamphlet or textbook about occupations. The objective of giving the student a body of concepts about self and practice in applying such concepts through the understanding and thinking processes involved in new occupational situations becomes a more important objective and it leads to a much improved process over the trial and error processes at the seven jobs change that was during an occupational career.

Also important in our consideration of objectives for education is the fact that for every student with the IQ of 120, there is a student with an IQ of 60. We must also keep in mind that there are actually five types of "knowl-
Stories In Pictures
GILBERT S. GUERER
Ohio State University

Teaching agriculture classes requires specialized training on the part of the instructor. A group of vocational agriculture teachers are taking part in a horticulture seminar at Ohio State University.

Training in Nursery operation at Broune, Beldsoe, Louisiana has become a popular part of the Vocational Agriculture curriculum. Photo: ALPH4T

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