

A REVIEW OF CURRICULAR OFFERINGS FOR
COOPERATIVE EDUCATION IN AGRICUL-
TURE AND A PROPOSED OUTLINE
OF GENERAL RELATED STUDY
FOR A TWO YEAR VAOT
PROGRAM

By

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CHAPTER I

PURPOSE AND DESIGN OF THE STUDY

Introduction

The development of cooperative vocational education in agriculture in Oklahoma has been a very deliberate process. Oklahoma Vocational Agriculture remains predominately production oriented. That may indeed be the best situation for Oklahoma. Most teachers in Oklahoma have accepted the concept of cooperative education in agriculture. In a study designed to determine the perception of Vocational Agriculture Occupational Training (VAOT) held by vocational agriculture teachers, Benson (1) found that:

Sixty-six percent [36] of the teachers in the sample perceived occupational information important enough to include a unit on it in their traditional instruction program. However, only 22.2 percent [8] of this 36 discussed the possibility of adding VAOT with the superintendent (1, p. 14).

It is interesting to note that although a majority of the teachers sampled felt that occupational education was important, only about 14 percent of them seriously considered adding a cooperative area to their program.

The entire structure of agriculture is shifting. During the years between 1951 and 1970 the number of farms in the United States dropped from 5,428 thousand to 2,924

thousand farms. This is a decrease of 46 percent. During this same period, the proportions of the United States population living on farms decreased from 14.2 percent to only 4.8 percent. The total number of man hours used on farms showed a similar change by dropping 57 percent while output per manhour increased over 213 percent. Overall farm production increased by 36 percent from 1951 to 1970 (2, p. 62). These figures show the changes taking place in agriculture. Education must keep pace.

Statement of the Problem

If Oklahoma Vocational Agriculture is going to keep pace with the rapidly changing agricultural scene, a quick adjustment must be made in the type of programs offered. The adjustment can be in the direction of cooperative education. The movement has already begun. However, this movement lacks the direction that a curriculum guide could give it.

Objectives of the Study

This study has two objectives. They are:

1. To present a brief review of the curriculums offered by a few states in cooperative education in agriculture.
2. To present a proposed outline for a two year Oklahoma VAOT program covering generally related studies.

Scope and Limitations of the Study

The scope of this study was limited to a review of printed material listing the various course offerings available in a few selected states concerning cooperative education in agriculture.

This study was limited to the presentation of, in an outline form, the general curriculums as proposed by other states and to the presentation of a proposed outline for a two year VAOT program in Oklahoma.

CHAPTER II

REVIEW OF LITERATURE

An abundance of literature was found dealing with curriculums in vocational education. This chapter includes a brief discussion of the feelings and attitudes presented in various research works and an equally brief sampling of courses offered by other states in cooperative education in agriculture.

Mondart (3) explained the educational dilemma brought on by changing times this way:

Slowly emerging is the knowledge that a service economy shapes a society in which the worker is dependent upon others--that he cannot provide the essentials for himself, but must provide and sell a needed service. Changing times demand new training programs, supplementing traditional efforts designed to train only for the production of goods (3, p. 2).

Mondart continued by saying:

Clearly, the area of the schools' responsibility must be widened, if agriculturally oriented students are to advance up the social and economic scale as far as their interests and talents will carry them. Equally clear is the fact that vocational agriculture must lift itself above the single purpose structure it now is (3, p. 2).

H. N. Hunsicker, Chief of the Agribusiness and Natural Resources division of the U. S. Office of Education, voiced essentially the same beliefs when he stated:

A 'complete program' has always been an instructional goal in Vocational Agriculture. This has meant providing instruction for both youth and adults. Enrollments in grades 9 to 12 increased from 527,000 in 1965 to 562,141 in 1971. However, of noteworthy importance during the same period is the fact that enrollments in production agriculture declined from 462,019 to 339,509, while enrollments in off-farm agribusiness options increased from 55,681 to 222,632 (4, p. 9).

In percentage terms, those figures show that between 1965 and 1971 there was an increase of 8.6 percent in the total number of high school students in vocational agriculture. A further breakdown shows that enrollments in production agriculture fell by 26 percent while enrollments in off-farm agriculture rose by a phenomenal 299.9 percent.

White (2), when discussing employment, stated:

Average annual employment in agriculture (farm operators, hired workers and unpaid family help) fell by 37 percent between 1960 and 1970 (from 7,057,000 to 4,522,000), while total employment of the U. S. civilian labor force increased by about 19 percent (2, p. 52).

This again may indicate that the need for production trained personnel in agriculture may be lessening.

How vocational agriculture reacts to this change in the structure of the agriculture industry will be of paramount importance. Curtis and Mondart (3) made this point quite clear as they stated, "Programs of vocational agriculture should reflect the changes in the occupational needs of the workers in the whole field of agriculture" (3, p. 38).

What has been said thus far may be summarized as, "The shift in agriculture has been to a build up in

off-farm businesses and occupations and professions"

(5, p. 1). With this in mind, it would naturally follow that vocational agriculture should develop competencies not only in production agriculture, but also in related occupations, careers, job placement and advancement, human relations, and leadership as well (5, p. 2).

Vocational agriculture has always employed a supervised occupational experience program as a means of teaching agricultural skills. There are four types of occupational experience programs available in vocational agriculture. They include: "1) Supervised farming programs (the most widely used type in Oklahoma), 2) Cooperative occupational experience programs, 3) Laboratory situations, and 4) Farm placement programs" (4, p. xxvii). Carwin (4) explained that these programs assist the students by helping them to, "1) Understand the requirements for his chosen occupation, 2) Apply that which he has learned, 3) Grow into the occupation, and 4) Further define his occupational objective" (4, p. xv). Carwin goes on to state that "Supervised occupational experience programs should be a basis for the type of instruction received" (4, p. xvi).

The type of occupational experience program of primary concern in this study is the cooperative occupational experience program. This program is the backbone of cooperative education. Cooperative education is defined as:

A program of vocational education for persons who, through a cooperative arrangement between the school and employers, receive instruction, including required academic courses and related vocational instruction by alternation of study in school with a job, in any occupational field, but these two experiences must be planned and supervised by the school and employers so that each contributes to the student's education and to his employability (6, p. 3).

The relevance of this type of program is explained by Mondart (3).

Bringing into the classroom live information about nonfarm agricultural jobs will effect a closer relationship between what goes on in the school and life outside. It will also facilitate the formulation of student occupational objectives, an accomplishment many teachers now consider impossible to achieve (3, p. 34).

What kinds of things should be taught in cooperative programs? A 1966 workshop listed several things. Among those were:

- 1) Agricultural competencies needed are mainly determined by the products handled by these businesses.
- 2) Many of the agricultural subjects taught to students preparing for production farming also will be needed by students who enter off-farm agricultural occupations.
- 3) Salesmanship, human relations, and business management are competencies needed by all employees, but in varying degrees (7, p. 147).

Everyone has their own idea as to exactly what should be included in a cooperative program in agriculture. However, there are seven general categories or areas that are widely accepted. They are:

- 1) Agricultural Machinery
- 2) Agricultural Supplies

- 3) Livestock and Poultry Industries
- 4) Crops and Forestry Industries
- 5) Ornamental Horticulture
- 6) Recreation and Wildlife Service
- 7) Agricultural Services (5, p. 3)

In addition to the related instruction which covers the many occupations in each area, many items of a generally related nature are included. These items include those competencies needed, to some degree, by all employees regardless of the specific occupation they have chosen.

One of the best ways to envision the types of courses that should be offered by a cooperative education program is to study what others have included in their cooperative programs. This study will be most helpful if it is presented in a topical format rather than merely listing offerings by State. What follows is an outline of what types of learning activities are offered by various States within the seven areas of instruction previously mentioned.

Farm Machinery

Bittner (8), in "Fundamentals of Machine Operation", put forth this outline of items to be included in a study of farm machinery.

1. Safe Farm Machinery Operation
2. Human Factors
3. Recognizing Common Machine Hazards
4. Equipment Service and Maintenance
5. Tractors and Self-Propelled Machines
6. Tillage and Planting Equipment

7. Chemical Equipment
8. Hay and Forage Equipment
9. Grain Harvesting Equipment
10. Other Harvesting Equipment
11. Materials Handling Equipment
12. Farm Maintenance Equipment (8, pp. iii-iv)

In a curriculum guide developed by the Agricultural Education Department of the University of Florida (9) the following units of instruction are suggested.

1. Introduction and Orientation
2. Tools and Equipment
3. Tractor Operation and Daily Care
4. Steering, Front Axles and Front Wheels
5. Introduction to Power
6. Power Transfer
7. Hydraulics (Fluid Power)
8. Brakes
9. Troubleshooting
10. Welding
11. Field Equipment
12. Agricultural Machinery Service Department
13. Agricultural Machinery Parts Department
14. Agricultural Machinery Salesmanship
15. Agricultural Machinery Dealership Management
(9, p. iv)

An Ohio State University (10) product approaches farm machinery this way:

1. Organization and Management of Agricultural Machinery Dealerships
2. Agricultural Machinery Service Department Operating Procedures
3. Agricultural Machinery Parts Department Operating Procedures
4. Agricultural Salesmanship
5. Human Relations in Agricultural Occupations
6. Metal Fusion and Fabrication Welding
7. Agricultural Machinery Assembly and Lubrication
8. Mechanical Power Transfer Systems
9. Hydraulic Power Transfer Systems
10. Adjustment, Maintenance, and Repair of Tillage, Planting, Spraying, and Fertilizing Machinery
11. Adjustment, Maintenance, and Repair of Crop Harvesting Machinery
12. Adjustment, Maintenance, and Repair of Small Gasoline Engines
13. Tractor Tune-up and Maintenance
14. Gasoline Tractor Engine Systems
15. Diesel Engine Systems
16. Tractor Repair (10, p. i)

These are, of course, quite general outlines. This is of little concern since this study is involved only with presenting outlines and not complete curriculums. The next area to be studied is that of Agricultural Supplies.

Agricultural Supplies

One of the units put out by Clark, Oen, and Holmes (11) of Michigan State University is "Agricultural Chemicals."

Included in this unit are seven lessons.

1. What are Agricultural Chemicals
2. Agricultural Chemical Safety
3. Chemical Control of Weeds
4. Plant Insects and Their Control
5. Control of Fungus Diseases in Plants
6. Control of Livestock Pests
7. Control of Household Pests (11, p. v)

This is, of course, a specific topic under the more general classification of Agricultural Supplies.

Walsh, Joy, and Hoover (12) looked at the area in a more general light when they proposed this outline for selling farm and garden supplies.

1. Career Opportunities
2. Feeds and Animal Nutrition
3. Seeds
4. Plants, Shrubs, and Trees
5. Fertilizers: What They Are
6. Fertilizers: How to Use and Choose Them
7. Pesticides
8. Petroleum Products
9. Customer Services (12, contents)

Under the heading of "Feed Sales and Serviceman" materials produced in Texas (13) again used rather general topics to cover the material.

1. Agricultural Salesmanship
2. Business Procedures

3. Regulations
4. Formulating Rations
5. Feed Preparation
6. Related Agricultural Supplies and Equipment
(13, pp. 207-409)

Binkley, one of the more prolific writers in curriculum development, has prepared several study guides which could be considered part of Agricultural Supplies. Three of these are shown below.

Feed Store Employee:

1. Understand the importance of an economical feeding program
2. Know the factors that effect the success of a feed dealer
3. Understand how farm animals use their feed
4. Know feed ingredients and their characteristics
5. Align animal needs to characteristics of feeds
6. Understand the milling processes
7. Know how to supply feed to customers
8. Understand the trends in merchandising feed
9. Understand the feed regulatory program and the description of feeds
10. Understand the use of additives in feeds (14, p. vi)

Employee in Grain and Seed Business:

1. Understand the importance of quality seed in crop production
2. Know procedures for grading grain at the elevator
3. Know the various methods of storing and drying grains

4. Know grain sanitation techniques
5. Become aware of safety and care of physical facilities
6. Understand how quality seed is produced
7. Understand how quality is controlled and regulated in the seed industry
8. Understand physical problems involved in marketing seeds
9. Know the kinds and varieties of seed
10. Know mixtures of seed recommended locally for various purposes
11. Know the season and seeding dates for recommended varieties of crops
12. Know weight and measures of seeds
13. Understand chemical or biological treatments needed for various seeds
14. Know the cultural and fertility needs for various crops that are commonly grown in the area (15, p. vi)

Fertilizer and Chemical Salesman:

1. Understand the importance of fertilizer in modern farming
2. Understand how fertilizer is affected by the chemical, biological, and physical properties of soil
3. Understand how plants use the various plant nutrients
4. Know the common nutrient deficiencies of the State
5. Know the characteristics of common fertilizer materials
6. Understand the principles involved in soil testing and other methods used to determine soil fertility

7. Know how to interpret a soil test
8. Make fertilizer recommendations
9. Understand fertilizer make-up and labels
10. Know the methods of applying fertilizers in the area
11. Understand the economics of fertilizer application
12. Merchandise fertilizers effectively
13. Understand the importance of chemicals in modern farming
14. Identify the various types of pests in your area and the damage done by each
15. Understand the chemicals available for farm use
16. Understand the harmful effects and what is required in the safe handling of chemicals
17. Understand the importance of manufacturer's instructions
18. Make recommendations for use of pesticides
19. Understand advertising and merchandising of agricultural chemicals (16, p. vi)

Binkley, as you have seen, listed his "learnings" in very general terms. Though it is understood that a complete understanding of each learning item would result in a thorough knowledge of the subject area, the degree to which this necessary understanding may be measured is somewhat uncertain.

In a "Course Outline for Agricultural Supply - Sales and Service Occupations" (17) developed in Ohio, twelve "teaching modules" can be found. An outline follows.

1. Career Opportunities in Agricultural Sales and Service

2. Orientation to the Supervised Occupational Experience Program
3. Human Relations in Agricultural Occupations
4. Agricultural Salesmanship
5. Organizations and Functions of Agricultural Businesses
6. Business Procedures
7. Feed--Sales and Service
8. Crop, Lawn, and Garden Seeds--Sales and Service
9. Fertilizers--Sales and Service
10. Agricultural Chemicals--Sales and Service
11. Petroleum and Petroleum Products--Sales and Service
12. Miscellaneous Agricultural Supplies and Small Equipment--Sales and Service (17, p. i)

These same authors also produced an outline for the study of agricultural chemicals which will also be included under the heading of Agricultural Supplies.

1. The use of chemicals as fertilizers
2. The use of chemicals as insecticides - Plants
3. The use of chemicals as soil additives
4. The use of chemicals as fungicides, bactericides, and nematocides
5. The use of chemicals to control field rodents and other predators
6. The use of chemicals as herbicides
7. The use of chemicals in the field of Farm Animal Health (Nutrition, Entomology, Pathology)
8. The use of chemicals as plant regulators (18, p. i)

Another outgrowth of the 1966 curriculum workshop held at Oklahoma State University was this list of suggested units for agricultural supply.

1. Feeds
2. Crop, Lawn and Garden Seeds
3. Fertilizers
4. Agricultural Chemicals
5. Petroleum and Petroleum Products
6. Veterinary, Large Animal, Poultry, and Pet Supplies, and Equipment
7. Electrical Supplies
8. Plumbing Supplies
9. Nails, Screws, Bolts, Hinges
10. Small Tools
11. Miscellaneous - Batteries, Oils, and Small Motors
12. Building Materials (7, p. 149)

From Alabama can be found two course outlines that fit in the general category of agricultural supplies. One of these is "Agricultural Products" (19) which includes a substantial list of possible units.

1. Principles of a Free Economy
2. Understanding Economic Factors that Affect Farm Business
3. Marketing Grain
4. Marketing Peanuts
5. Marketing Hogs
6. Marketing Beef Cattle

7. Governmental Regulation of Livestock Marketing
8. Marketing Dairy Products
9. Marketing Poultry and Eggs
10. Marketing Fruits and Vegetables
11. Marketing Cotton
12. Marketing Forest Products
13. Processing Fruits and Vegetables for Market
14. Wholesale and Retail Meat Processing
15. Food Processing
16. Packaging and Protection of Agricultural Products
17. Storage and Warehousing of Agricultural Products
18. Inspection, Grading, Shipping, and Handling of Agricultural Products (19, p. 1-33)

The second course offered by Alabama in this area is "Agricultural Supplies" (20). This course also contains several units of interest.

1. Career Opportunities in Agricultural Supplies, Sales and Services
2. Relations Between Persons Engaged in Agricultural Sales and Services
3. Agricultural Salesmanship
4. Organization and Functions of Agricultural Businesses
5. Agricultural Business Procedure
6. Feeds - Sales and Service
7. Crop, Lawn and Garden Seeds, Sales and Services
8. Fertilizers, Sales and Service
9. Agricultural Chemicals

10. Miscellaneous Agricultural Supplies and Small Equipment - Sales and Service (20, pp. 1-19)

Livestock and Poultry Industries

A course developed in Louisiana called "Livestock and Poultry" (21) gives rather complete coverage to this subject area.

1. Auxiliary pumps, Piping, and Air compressors
2. Electrical Power, Service, and Maintenance
3. Refrigeration
4. Plant Sanitation
5. Hydraulic Systems
6. Truck Operation and Maintenance of Gasoline and Diesel Engines
7. Marketing Poultry and Poultry Products
8. Marketing, Slaughtering, and Distributing Livestock and Livestock Products
9. Marketing Milk and Milk Products
10. Processing Milk and Milk Products
11. Growth and Destruction of Micro-Organisms
12. Orientation to Supervised Occupational Experience Programs
13. General Principles of Business in Relationship to Livestock and Poultry Occupations
14. Human Relations
15. Agricultural Salesmanship
16. Mathematical Calculations (21, p. iii)

An "Animal Science" curriculum guide (22) produced in Iowa approaches this subject area unlike most other guides.

This course is broken down into smaller learning areas producing a more specialized outline of course content.

1. Livestock Industry
2. Animal Nutrition
3. Animal Breeding
4. Beef Cattle
5. Dairy Cattle
6. Horses
7. Poultry
8. Sheep
9. Swine (22, pp. 1-40)

Finally, in this area comes a course on being a "Horse Farm Employee" (23) developed in Kentucky. Again Binkley lists rather general learnings to be accomplished.

1. Understand the early history and development of the horse
2. Know the basic characteristics of the different breeds of horses
3. Understand the functional anatomy of the horse
4. Know the common unsoundnesses and blemishes of horses
5. Know the procedure for determining the age of a horse by looking at his mouth and teeth
6. Know the basic procedure for grooming horses
7. Understand the basic principles of selecting and judging horses
8. Know the different methods of marking or identifying horses
9. Understand the principles of reproduction in horses

10. Know how to care for pregnant mares and mare and foal at foaling time
11. Understand how to care for a stallion
12. Understand the digestive system of a horse
13. Know the nutrient requirements and feeding standards for horses
14. Know the health and sanitation conditions important for keeping horses healthy
15. Know the common diseases that affect horses and their control
16. Know the common internal and external parasites that affect horses and their control (23, p. vi)

Crops and Forest Industries

Under the general term of "Agronomic Science" (24) another unit was developed in Iowa. As in "Animal Science" the area is broken into several topics to provide more specialized learning.

1. Agronomic Opportunities: Economic and Occupational
2. Soil Properties
3. Soil Management
4. Fertilizers
5. Plant Growth
6. Oat and Other Small Grain Production
7. Corn Production
8. Soybean Production
9. Forage Production: Hay, Pasture, and Silage
10. Pests of Agricultural Crops: Insects, Diseases, and Weeds (24, pp. 1-34)

From Louisiana came another general outline. This one covers "Crops, Forestry, and Soil Conservation" (25).

1. Farm Survey
2. Selection, Care, and Maintenance of Tractors and Equipment
3. Selection, Care, Operation, and Maintenance of Small Gasoline Engines and Equipment
4. Welding
5. Electricity
6. Sketching and Drawing
7. Grading, Processing, and Storing of Crops and Forestry Products
8. Forestry Management and Soil Conservation
9. Job Procurement
10. Human Relations Involved in Successful Performance in Jobs Related to Crops and Forestry Products
11. Salesmanship
12. Business Mathematics
13. General Principles of Business
14. Record Keeping
15. Legal Information (25, p. iii)

The curriculum guide for a "Forestry Aide" (26) from Kentucky follows the same format as those covered previously. Binkley this time lists "learnings" in the area of forestry.

1. Understand the Importance of Forestry in the Local, State, and National Economy
2. Know Common Trees of the Southeastern United States

3. Know Lumber Obtained From the Common Trees of the Southeastern United States
4. Know procedure for Using Forest Mensuration Instruments
5. Know Procedure for Scaling Standing Timber
6. Know Procedure for Scaling Yard Logs
7. Know Procedure for Scaling Sawed Lumber
8. Know Environmental Effects of Tree Growth
9. Know Procedure for Planting Trees
10. Know Procedure for Improving Timber Stands
11. Understand Weed Control in Christmas Tree Production
12. Know Procedure for Pruning Christmas Trees
13. Understand Fire Control in Forest
14. Understand Reforestation Methods
15. Know About Marketing Forest Products
16. Know How to Control Harmful Insects of Forest Trees
17. Know How to Control Harmful Diseases of Forest Trees (26, p. vi)

The final curriculum to be covered in this area comes from Arizona. From their "Specialized Curriculum in Agricultural and Renewable Resources for Arizona (27) one unit, "Forestry", will be taken.

1. Agricultural and Renewable Resources
2. Forestry
3. Multiple Use Concept
4. Identification of Trees of Economic Importance
5. Planting Trees

6. Managing the Forest
7. Reproducing the Forest
8. Protecting the Forest
9. Reading and Interpreting Maps and Land Descriptions
10. Estimating the Stand
11. Keeping Records on Forest Lands
12. Natural Defects in Wood
13. Defects Due to Seasoning and Machining
14. Logging (Harvesting and Transportation)
15. Sawmills
16. Growing Christmas Trees (27, pp. 20-31)

Ornamental Horticulture

In this very important area of study are found several interesting courses offered. Two of these come from Kentucky.

Florist Helper:

1. Know What Materials and Equipment are Needed by a Retail Florist
2. Understand How Materials are Secured
3. Know How to Care for the Various Materials Used by a Retail Florist
4. Know How to Use the Tools of a Florist
5. Know When There are Particular Demands for Flowers
6. Understand the Kinds of Flowers Used for Special Occasions
7. Know the Symbolic Meaning of Flowers

8. Understand the Principles of Design in Arranging Flowers
9. Understand the Importance of a Good Delivery of Flowers (28, p. vi)

Greenhouse Employee:

1. Understand How Plants Manufacture Food
2. Know Procedure for Sterilizing Soil
3. Know Procedure for Preparing Soil Mixture
4. Know Procedure for Constructing Cold Frames
5. Know Procedure for Controlling Rodents
6. Know Procedure for Marketing Plants
7. Understand How to Care for Tools Used in the Greenhouse
8. Understand How Plant Nutrients Affect Plant Growth
9. Know Procedure for Propagating Plants by Seed
10. Understand How to Propagate by Other Than Seed
11. Know Procedure for Transplanting, Potting, and Shifting Greenhouse Plants
12. Know Watering Practices that Should be Followed for Different Greenhouse Plants
13. Know Procedure for Maintaining Proper Greenhouse Temperature
14. Know Procedure for Growing Cut Flowers
15. Understand What is Involved in Flower Forcing
16. Understand How to Diagnose Plant Disorders
17. Understand Application of Insecticides (29, p. vi)

One of the courses developed in Texas for ornamental horticulture was:

Nursery Worker:

1. Introduction to Horticulture
2. Constructing, Maintaining, and Using Structures That Aid Plant Growth
3. Plant Growing Media
4. Plant Growth and Classification
5. Plant Propagation
6. Nursery Plant Production
7. Floral Crop Production
8. Establishing and Caring for Lawns
9. Controlling Plant Insects, Plant Diseases and Other Pests
10. Operating and Maintaining Horticultural Equipment
11. Developing and Maintaining the Landscape
12. Merchandising Horticultural Plants and Supplies (30, pp. 290-1805)

A course of study was also developed during the Oklahoma curriculum workshop which dealt with horticulture.

Horticulture:

1. Plant Growth Structures, Planning, Design and Maintenance
2. Propagation in a Greenhouse
3. Growing Vegetables in a Greenhouse
4. Media for Vegetable Production in the Greenhouse
5. Potted Plants in the Greenhouse
6. Selecting Fertilizer for Potted Plants
7. Nursery Management
8. Nursery Management - Introduction to the Nursery Business

9. Lawns and Turf
10. Ornamental Horticulture
11. Planting and Transplanting
12. Cut Flowers in a Greenhouse (7, pp. 203-240)

Finally, the course of study from Iowa should be listed. Again, this outline may seem more complete as the area has been divided into several specific topics.

Horticulture:

1. Opportunities in Horticulture
2. Horticultural Plant Classification and Growth
3. Pomology
4. Olericulture
5. Floriculture
6. Arboriculture
7. Lawn Turf Management
8. Greenhouses
9. Horticultural Mechanics
10. Business Procedures
11. Landscaping (31, pp. 1-34)

Recreation and Wildlife Service

Alabama offers a relatively short course on "Agricultural Resources." It includes some very general units.

1. Career Opportunities in Agricultural Resources
2. Soil Conservation and Utilization
3. Forest Conservation and Utilization

4. Recreation Development and Management
5. Wildlife Conservation and Utilization
6. Water Conservation and Utilization
7. Air Conservation
8. Fish, Including Farms and Hatcheries (32, pp. 1-16)

Arizona offers quite a complete course of study in this area. Again it is divided into several areas for specific attention.

Recreation:

1. Recreation Machines
2. Fisheries Management
3. Firearms Safety
4. Soil and Water Conservation
5. Range Management
6. Recreation Management and Development
7. Boat Safety (27, pp. 16-55)

Environment:

1. Environmental Ecology and Ecosystem Management
2. Ecology, Environment and Ecosystem
3. Ecosystem Management
4. Man's Influence on Environment
5. Man's Responsibility to Environment
6. Renewable and Non-renewable Resources
7. Air Pollution
8. Water Pollution
9. Noise Pollution

10. Solid Waste Disposal (27, pp. 2-8)

Careers in Agricultural Resources:

1. An Overview of the Opportunities
2. Factors to Consider in Choosing a Career
3. Sources of Information About Jobs
4. Broad Employment Opportunities (27, pp. 1-2)

Wildlife:

1. Game Management
2. Introduction to Wildlife Conservation
3. Importance of Wildlife
4. Wildlife Habitat Fundamental Needs
5. Farmers' and Ranchers' Influence on Wildlife Habitat
6. Characteristics of Wildlife Populations
7. Wildlife Territory and Travels
8. Dynamics of Population
9. Wildlife and Land-Use Patterns
10. Wildlife Protection
11. Management of Wildlife
12. Commercial Production of Wildlife
13. Identification of Arizona Wildlife Species (27, pp. 9-15)

Under the title of "Wildlife and Recreation" (33), several units were developed in Louisiana.

1. Small Engines and Equipment
2. Building, Maintaining, and Renovating Wildlife and Recreational Structures
3. Establishing a Shop

4. Maintenance and Operation of Tractors and Allied Equipment
5. Tool Selection and Maintenance
6. Irrigation Systems
7. Insect, Disease, and Pest Control
8. Game and Fish Management
9. Care of Animals Used for Recreational Purposes
10. Care of Plants and Soils
11. Recreational Projects for Income
12. Wildlife and Recreation Communication
13. Ornamental Horticulture
14. Orientation and Scope of Wildlife and Recreation Occupations
15. Job Procurement and Human Relations
16. Organization and Management of Business
17. Human Relations
18. Legal Information
19. Sales Promotion (33, p. iii)

Another comprehensive outline for study in this area was developed in Iowa under the general heading of "Agricultural Resources and Conservation." This outline contained several topical areas each of which included many informational units.

1. Agricultural Resource Opportunities
2. Air Resource Management
3. Forest Resource Management
4. Fish Management

5. Land Use Planning
6. Outdoor Recreation Planning
7. Soil Conservation
8. Water Resource Management
9. Wildlife Management (34, pp. 1-28)

Finally, from Alabama can be found a general outline covering "Natural Resources" (35).

1. Career Opportunities in Natural Resources
2. Nature Study and Conservation
3. The Character of Natural Resources
4. The Economic Worth of Natural Resources
5. The Increasing Use of Natural Resources
6. Conservation - Everybody's Problem
7. Soil Conservation
8. Soil Making and Erosion
9. Soil and Soil Resources
10. Water, Its Uses and Conservation
11. Forests and Their Uses
12. Wind and Air
13. Fuel Minerals
14. Nonfuel Minerals
15. Energy From the Atom, the Sun and the Tides
16. The Ecological Approach to Natural Resources
17. Career Opportunities in Rural Recreation
18. Leisure and the Outlook for Rural Recreation
19. Selecting the Recreational Enterprise

20. Technical and Financial Assistance
21. Land - Use Rights and Cabin Sights
22. Planning and Developing the Enterprise
23. Wildlife and the Soil
24. Hunting Areas
25. Shooting Preserves
26. Fishing Waters
27. Catfish Production
28. Vacation Farms and Ranches
29. Campgrounds, Picnic and Sports Areas
30. Science, Historic, and Nature Areas
31. Merchandizing Rural Recreation Activities
32. Maintaining and Operating the Enterprise (35, pp. v-vi)

Agricultural Services

This is often considered the largest area of employment in agribusiness. Binkley provided several guides concerning service occupations. A few from his study are presented here.

Electrician's Aide:

1. Understand the Importance of Electricity on the Farm and Elsewhere Today
2. Understand Electrical Terminology
3. Know the Names of Hardware and Tools Used in Electrical Work
4. Procedure for Using Electrical Testing Equipment
5. Know kinds and types of Conductors and to Figure Line Losses for These Conductors

6. Understand the Principles of Safety in Electricity, Fusing, and Grounding
7. Understand Electrical Planning (blueprints and codes)
8. Know Procedure for Making Splices and Using Connectors
9. Procedure for Wiring Simple Circuits
10. Understand How to Select Types of Motors for Specific Jobs
11. Understand How to Service and Perform Minor Repairs on Motors
12. Plan for Installing Different Types of Homemade Electrical Equipment
13. Know the Sources and Distribution of Electricity (36, p. vi)

Lumber and Building Material Salesman:

1. Know Importance of Building Materials to the Economy of the Local Area
2. Identify and Know Kinds and Uses of Building Materials Handled by the Business
 - a. lumber
 - b. tools
 - c. hardware items
 - d. insulation materials
3. Prepare Bill of Materials
4. Read Blueprints and Drawings
5. Know Good Procedures for Displaying and Storing Materials
6. Know Economic Considerations in Building Material (cost comparison)
7. Know Building Codes and Requirements
8. Know Requirements for Good Construction and Repair of Buildings (37, p. vi)

Veterinary Aide:

1. Understand the Nature and Causes of Diseases in animals
2. Know Feed and Exercise Requirements of Animals
3. Understand general Practices of Sanitation in Controlling Diseases
4. Know proper Feeding Practices to Prevent Diseases and Parasites
5. Understand the Training a Veterinarian Receives and the Opportunities in the Field
6. Understand the Importance of Proper Handling and Caring for Drugs
7. Know surgical Instruments and Terminology
8. Know Anatomy of Animals
9. Know How to Open and Animal for a Post-mortem
10. Know Procedure for:
 - a. Routine Office Work
 - b. Operating a Two-way Radio
 - c. Holding and Securing Animals
 - d. Checking Temperature, Pulse Rates, and Breathing Rates
 - e. Applying Bandages
 - f. Sterilization
 - g. Sterilizing the Operating Room
 - h. Sterilizing Operating Equipment
 - i. Operating X-ray Machines
 - j. Grooming Pets During Confinement
 - k. Giving Assistance at Birth--Obstetrics
 - l. Castrating Animals

- m. Using Syringes and Making Injections
- n. Dehorning Cattle
- o. Controlling Internal Parasites
- p. Controlling External Parasites
- q. Making Fecal Examinations
- r. Making a Blood Test
- s. Running a Urine Test
- t. Making Bacteriology Tests
- u. Surgical Preparation (38, pp. vi-vii)

Assistant Meat Cutter:

1. Understand Sanitation in the Meat Department
2. Understand the Techniques and Skills of Preparing and Displaying Meat Products
3. Know the Different Kinds and Grades of Meat
4. Understand How to Reduce Carcasses and Wholesale Cuts to Saleable Retail Meat Cuts (beef, pork, veal, lamb and mutton, and poultry)
5. Understand Self-Service Meat Operations
6. Understand Refrigeration, Curing, and Storage of Meat
7. Understand How to use Mathematics in the Meat Industry (39, p. vi)

Small Engine Services and Repair:

1. Understand the Principles of the Operation of an Internal Combustion Engine
2. Know the Procedure for Preparing a Small Engine for Service or Repair
3. Understand How to Service Air Cleaner
4. Understand How to Service Fuel Strainers
5. Understand How to Service Crankcase Breathers

6. Understand How to Service Lubrication System
7. Understand How to Service Spark Plugs
8. Know Procedure for Adjusting Carburetor
9. Know Procedure for Repairing Fuel Systems
10. Know Procedure for Repairing Governors
11. Know Procedure for Repairing Ignition System
12. Know Procedure for Repairing Starters
13. Know Procedure for Repairing Valves
14. Know Procedure for Repairing Cylinders, Pistons,
and Connecting Rods
15. Know Procedure for Repairing Crankshaft Assemblies
(40, p. vi)

A brief look at the Iowa materials in this area may be helpful. Two basic areas will be presented concerning agricultural supplies.

Agricultural Mechanics:

1. Opportunities in Agricultural Mechanics
2. Carpentry and Wood Construction
3. Concrete and Concrete Masonry
4. Electricity - Wiring, Controls, and Motors
5. Farmstead Planning, Service Center and Structures
6. Farm Power and Machinery Operation and Maintenance
7. Making and Reading Working Drawings
8. Safety
9. Storage and Materials Handling
10. Welding and Metals (41, pp. 1-32)

Services:

1. Occupational Opportunities
2. Dairy Processing
3. Egg Processing
4. Grain Processing and Grain By-Products
5. Meat Processing and Meat By-Products
6. Wool Processing and Other Fiber Products
7. Vegetable and Fruit Processing (42, pp. 1-20)

Louisiana produced an outline for a course of study for "Farm Services" (43).

1. Small Engines and Equipment
2. Maintenance and Operation of Tractors and Allied Equipment
3. Farm Welding
4. Farm and Home Convenience and Sanitation
5. Irrigation Systems
6. Farm Surveying
7. Building, Maintaining, and Renovating Farm Structures
8. Installation of Equipment
9. Insect, Disease and Pest Control
10. Breeding of Livestock
11. Feeding Livestock and Poultry
12. Farm Custom and Rental Services
13. Sanitation Policies and Regulations
14. Planning Farmstead and Layout
15. Processing and Distributing Agricultural Products

16. Agricultural Communications
17. Orientation and Scope of Farm Services
18. Salesmanship
19. Job Procurement and Human Relations
20. Organization and Management of Business
21. Legal Information (43, p. iii)

An outline developed in Michigan covering "Grain Sampling and Grading" (44) follows.

1. Taking Samples of Grain From the Farm Truck
2. Characteristics That Determine Value of Wheat
3. Physical Examination of Wheat
4. Dockage in Wheat
5. Test Weight Per Bushel
6. Moisture Test
7. Defects
8. Wheat of Other Classes
9. Rodent and Insect Damage
10. Special Grades, Special Grade Requirements and Special Grade Designations (44, p. v)

A series of topical curriculum outlines produced in Oklahoma in the general area of agricultural services is included in the following units.

Sales and Service:

1. Advertising
2. Display
3. Learning About Agricultural Products and Services (pre-approach)

4. The Approach
5. Determining the Customer's Needs: Helping the Customer Examine the Goods
6. Answering Questions and Objections
7. Closing the Sale (7, pp. 46-47)

Records and Control:

1. Units
2. Arithmetic for the Salesman
3. Taxes
4. Regulations of Business
5. Accounting and Control (7, pp. 76-88)

The Buying Process:

1. Principles of Buying
2. Sources of Supply
3. Transportation and Storing Agriculture Products
4. Pricing Agricultural Products and Services
(7, pp. 94-102)

Organization and Management:

1. Preventing Accidents and Handling Emergencies
2. Location, Store Layout, and Organization
3. Store Ownership
4. Improving an Agricultural Related Business
(7, pp. 105-120)

Career Opportunities in Agricultural Business:

1. Occupational Information
2. Modern Agriculture
3. Exploring Occupations
4. Opportunities in Agriculture

5. Planning an Occupational Future (7, pp. 1230143)

This discussion and presentation of a few of the areas covered in the specifically related studies has probably been quite informative. The opportunity to see what other people and states are doing in the same areas in which you are concerned should be helpful. However, in most cases, about one half of the classtime available is spent not on specific, individual study, but on more generally related information. For this reason, the next part of this study will be a brief review of some of the generally related instructions offered in various states.

Generally Related Instruction

Clark (45), working in Michigan developed several instructional units of a general nature. Two of these are presented below.

Agricultural Salesmanship:

1. How to Meet the Customer
2. How to Present Supplies and Services
3. How to Overcome Resistance
4. How to Close the Sale (45, p. v)

Another area covered by workers in Michigan was self-improvement.

1. Self Analysis
2. Self Improvement: Vocational and Educational
3. Self Improvement: Personal Good Grooming and Personal Hygiene

4. Self Improvement: Personal Healthy, Wealthy, and Wise
5. Self Improvement: Personal Building a Business Wardrobe
6. Self Improvement: Personal Effective Communication (46, p. vi)

Miller (47) hit upon a very important area in "Mathematics for Agriculture." As he stated, "To succeed in agriculture, students need to become competent in mathematics" (47, p. iii). His learning outline follows.

1. Whole Numbers
2. Fractions
3. Decimals
4. Ratio and Proportion
5. Percentage
6. Measurement
7. Weights and Measures
8. Square Root
9. Interest (47, pp. iii-iv)

Another area of particular importance is that of communications. Braden and Todd (48) developed a course in this area.

1. Do You Get the Point?
2. Parts of Speech
3. Subject and Verb Agreement
4. Writing Complete Sentences, Thoughts or Ideas
5. Capital Letters
6. End Marks and Commas

7. Other Punctuation Marks
8. Letter Writing
9. Verb Usage
10. The Parts of a Sentence (48, p. vi)

A somewhat more general course was outlined in Ohio.

Agriculture Supplies, Business and Service:

1. Opportunities in Agricultural Occupations
2. Orientation to Job Training
3. Billing Merchandise to Customers
4. Human Relations in Business
5. Selling and Salesmanship
6. Business Organization
7. Credit and Interest Charges
8. Advertising and Promotion
9. Taxes
10. Office Procedures and Records
11. Marketing Agricultural Products
12. Transportation and Storage
13. Inventory and Depreciation
14. Contracts and Leasing
15. Insurance (49, pp. 1-429)

A course outline produced in Missouri divides the learning into two general areas, then gives special attention to each.

Orientation to Employment:

Part A - Vocational Information for Student - Trainees

1. The Cooperative Method for Employment Education

2. The Club Program for Personal Improvement
3. Learning Techniques for School Success
4. Employer - Employee Relations for Job Success
5. Personal Human Relations for Daily Living
6. Income Taxes for Working Americans
7. Social Insurance for Economic Protection
8. Legal Regulations for Young Workers
9. Organizations for Labor and Management
10. Occupational Choices for Career Development
11. Securing Employment for Satisfaction and Advancement

Part B - Personal Economics for Young Workers:

1. Your Economic Wants and Needs
2. Budgeting and Financial Planning
3. Saving and Investing Programs
4. Credit and Money Management
5. Contracts and Negotiable Instruments
6. Legal Problems in Buying Goods and Services
7. Life and Health Insurance Planning
8. Property Insurance Policies
9. Government Services and Taxes (50, p. 2)

Two guides prepared by Binkley in Kentucky which fit into a generally related category are "Salesmanship and Selling" (51) and "Store Skills" (52).

Salesmanship and Selling:

1. Understand That Selling is the Key Function of all Business Activity

2. Understand That Everyone Has Something to Sell, Regardless of His Occupation
3. Understand the Attributes of a Good Salesperson
4. Understand the Different Kinds of Customers
5. Create the Image of Making the Customer the Most Important Person in Retail Selling
6. Understand the Parts of a Sale
7. Conduct Student Sales Demonstrations and Rehearsals
8. Understand obligations Salespersons Have to Customers
9. Become Familiar With Company (store) Policies, Practices, and Procedures
10. Develop Knowledge of Products and Services Sold (51, p. vi)

Store Skills:

1. Know the Kinds of Supplies Handled by the Business Where You Are to Work
2. Know Location of Merchandise and Supplies in the Business
3. Know How to Interpret Labels, Tags, and Charts on Merchandise
4. Develop a Merchandise and Information Folder
5. Learn Measuring and Packaging of Merchandise
6. Understand Procedure for Making Sales Tickets and Filling Orders
7. Understand How to Operate a Cash Register and Make Change
8. Understand Good Procedure for Delivering Merchandise
9. Understand Good Procedure for Unloading Trucks, Boxcars, and Storing Merchandise
10. Understand What is Involved in Preparing and Designing Displays

11. Understand Procedure for Assembling Small Items of Equipment
12. Understand the Routine Housekeeping Chores and How to Perform Them
13. Understand Good Telephone Procedure
14. Understand Procedure for Operating an Adding Machine (52, p. vi)

Another course of study developed in Kentucky concerned itself with a more general or overall approach.

1. Opportunities in Agricultural Occupations
2. Orientation to the Training Program (including applying for job)
3. Organization of Distributive Businesses
4. Agricultural Mathematics (may be integrated in other units)
5. Human Relations and Personality Traits
6. Store Skills
7. Salesmanship and Selling
8. Feeds
9. Seeds
10. Fertilizers
11. Agricultural Chemicals
12. Evaluation
13. Timely Group Problems
14. FFA (53, p. vii)

Iowa has developed two courses which fall into this area. They are "Agricultural Supplies and Services" (54) and "Occupational Experience in Agriculture" (55).

Agricultural Supplies and Services:

1. Human Relations
2. Salesmanship
3. Business Procedures and Records
4. Business Management
5. Product Knowledge of Agricultural Supplies
6. Business Law (54, pp. 4-27)

Occupational Experience in Agriculture:

1. Planning A Career
2. Locating an Agricultural Opportunity and Entering an Occupation
3. Orientation to Occupation
4. Importance of the Individual
5. Legal Consideration - Farm and Non-farm
6. Occupational Success
7. Farming Program and Personal Finance (55, pp. 1-19)

A sample outline of related course content from California (56) follows:

1. Introduction
 - a. Class Standards
 - b. FFA
2. Work Habits and Attitudes
 - a. Introduction to Work Experience
 - b. Interviewing
 - c. Applications for Employment
 - d. Employee-Employer Relation
 - e. Dress and Appearance
 - f. Human Relations
 - g. Conduct on the Job
 - h. Careers and Opportunities
 - i. Insurance
 - j. Welfare-Disability-Social Security
 - k. Income Tax
 - l. Making Correct Change (56, p. 19)

A list of general competencies needed in New Mexico (57) covers these general areas.

1. Health Habits
 - a. Cleanliness About Person and Clothing
 - b. Adequate Sleep as it Reflects in Alertness and Disposition
2. Responsibility
 - a. On Time
 - b. Accepts and Carries out Duties
 - c. Honest
 - d. Accurate and Careful
 - e. Care of and Concern for Materials, Equipment, and Safety Factors
3. Adaptability
 - a. To Other People
 - b. To Changing Situations
 - c. Or Application of Knowledge in the Work Situation
4. Appreciation of or Attitude Toward
 - a. Himself
 - b. His Teacher
 - c. His Fellow Students
 - d. His Employer
 - e. Work to be Done
 - f. Life in General
 - g. Plans for the Future
 - h. Desire for Improvement
5. Ability to
 - a. Follow Instructions
 - b. Use Time Effectively
 - c. Exercise Initiative and Judgement
 - d. Look Ahead; anticipate Problems as Well as Opportunities (57, pp. 26-27)

A further list of general related subject matter produced in New Mexico includes:

1. The Occupational Opportunities Available in the Area, State, and Nation With Respect to Persons Employed, Trends, etc.
2. The Effect of Education on Lifetime Earnings
3. Steps in Selecting A Career
4. Developing Career Briefs

5. Desirable Characteristics for a Job
6. What the Employer Expects From You
7. Writing Letters of Application
8. The Personal Interview
9. How to Succeed on the Job
10. The Importance of Continuous Education
11. The Apprenticeship Program--Labor Organizations
12. Laws Affecting Workers
13. Insurance Programs (Social Security, Workmen's Compensation, Life Insurance Programs)
14. Your responsibilities as a Citizen of the Community
15. Safety
16. Work Habits and Attitudes
17. Cleanliness and Grooming
18. Problem Solving Ability
19. Job Initiative
20. Loyalty (57, pp. 31-32)

Redmond (58) of Chicago developed an outline or curriculum guide for the cooperative programs of Chicago.

1. Understanding the Cooperative Program
2. Looking at Ourselves and Others
3. Learning to Assume Our Responsibilities to Society
4. Understanding Our Part in the World of Work
5. Understanding the Management of Money
6. Understanding the Importance of Safety and Health
7. Learning to Use Leisure Time (58, 29-32)

A New York Prevocational Series (59) lists many items of general interest.

Start in the Right Direction:

1. Plan Your Career Early
2. The Results of Poor Career Planning
3. Choosing a Career Is Important
4. Self-Study
5. Exploring the World of Work (59, p. v)

Finding and Holding a Job:

1. Sources for Finding a Job
2. Getting Ready for Your Job Interview
3. The Job Interview
4. Keeping the Job (60, p. v)

Finding a Job Through the Newspaper:

1. How to Find the Job Ads
2. How to Find the Job You Want
3. How to Find Opportunities for Training
4. How to Place an Ad for Yourself (61, p. v)

Choosing Your Job:

1. Introduction
2. Duties of the Worker
3. Working Conditions
4. Job Requirements
5. Pay and Promotions
6. Employment Outlook
7. Geographical Location
8. Related Occupations (62, p.v)

The workshop held in Oklahoma presented this two year course of study for cooperative agricultural education.

First-Year Curriculum:

1. Program Orientation
2. Employment Orientation
3. Human Relations
4. Business Policies
5. Using Advertising as a Selling Aid
6. Display Principles and Techniques
7. The Pre-Approach to Selling
8. The Sales Approach
9. Finding the Customer's Needs and Desires
10. Helping the Customer Examine the Goods
11. Answering Questions and Objections
12. Closing the Sale
13. Arithmetic for the Salesman
14. Career Opportunities in Agriculture Business
15. FFA (7, p. 13)

Second-Year Curriculum:

1. Program Orientation
2. Employment Orientation
3. Human Relations
4. Advanced Selling Techniques in Specialized Areas
5. Advertising Layout and Copywriting
6. Window and Interior Display
7. Taxes

8. Regulations of Business
9. Accounting and Control
10. Principles of Buying
11. Sources of Supply
12. Transporting and Storing Agriculture Supplies
13. Pricing Agricultural Products and Services
14. Career Opportunities in Agri-Business
15. FFA (7, p. 14)

Certainly this brief look at what is being done in the area of curriculum for cooperative programs is incomplete. There is still a world of materials to be examined. Every state has materials available that may help a teacher-coordinator as he or she attempts to formulate a curriculum for a particular school and community.

CHAPTER III

CONCLUSIONS AND RECOMMENDATIONS

The primary objective- of this study were: 1) To present a brief review of the curriculums offered by a few states in cooperative education in agriculture and 2) To present a proposed outline for a two year Oklahoma VAOT program covering generally related studies. The first of these objectives has now been completed. The second will be dealt with later.

Conclusions

The review of curriculum materials developed in other states helped in the formulation of several conclusions concerning this area of study. The conclusions that were drawn follow.

1. There exists a tremendous amount of curriculum material that could be used by Oklahoma VAOT instructors.
2. Very little uniformity of style exists among the various formats used in the curriculums studies.
3. The variety of techniques used by the producers of curriculum materials would make it difficult.

for any one teacher to use two or more curriculums effectively. Therefore, a need for a standardized format curriculum similar to that for Oklahoma does exist.

4. Performance based objectives have not been utilized in VAOT curriculums.
5. Several areas of instruction are widely accepted as shown by their presence in most generally related curriculums. These areas can be combined to form an outline of generally related study for a two-year VAOT program in Oklahoma.

The following is a list of those areas which may be combined to form an outline of generally related study for a two-year VAOT program in Oklahoma. No order of presentation or time to be allotted is implied in the outline which follows.

Proposed Outline Year I

I. Introduction to VAOT

(In order for a student to gain maximum benefit from a program, the student must have an understanding of how the program functions, what is expected of him, and what he can expect from the program.)

II. Self Analysis

(Knowing one's strengths, weaknesses, hopes, and fears can be an immeasurable asset in planning one's training and educational future.)

III. Opportunities in Agriculture

(An obvious addition to a complete curriculum.)

This may be the basis for much of what occurs later in the course.)

- IV. Mathematics in Agriculture
(A person can have only limited success when his ability to work with numbers is limited.)
- V. Human Relations
(It is of utmost importance that a person be able to get along with people.)
- VI. Business Policies
(A general understanding of how a business operates will be quite helpful to a student just starting a job.)
- VII. FFA
(The value of a good youth program is tremendous.)
- VIII. Communications
(As with numbers, an ability to effectively use words is greatly needed.)
- IX. Salesmanship and Selling
(A very useful ability in any agri-business.)
- X. Work Ethic
(Developing a proper attitude may prevent problems on the job.)
- XI. Business Records
(Hopefully, the students will get an opportunity to help with the business records.)
- XII. Advertising and Promotion
(Should provide knowledge of how to induce people to buy certain products.)
- XIII. Taxes
(A matter of fundamental importance in all businesses.)

Proposed Outline Year II

- I. Introduction to VAOT
(A brief review may be in order.)
- II. Self Analysis
(Has the student changed any in the last year?)
- III. Human Relations
(This is more important now than before because the student is relating to more people now.)
- IV. Advanced Selling Techniques
(This is a logical progression of learning.)
- V. Business Management
(A student should be prepared to begin his own business if he so desires.)
- VI. Concepts of Supply and Demand
(Applicable at this advanced stage of learning.)
- VII. Business Regulations
(Further prepares the student to assume responsible roles.)
- VIII. FFA
(The importance of the youth organization as a means of displaying acquired skills increases.)
- IX. Transportation of Products
(This is another important aspect of agri-business.)
- X. Understanding the Customer
(A basic need in all agri-business.)
- XI. Finding a Job
(This is necessary for graduating students.)

XII. Job Application

XIII. Further Educational Opportunities

(Necessary for help in guidance concerning post-high school plans.)

Recommendations

During the course of this study, a number of problems were encountered. Many of these problems related only to conducting this study. However, several were of a more general and far reaching nature. The latter group provided the basis for the following recommendations.

1. A course covering the availability and use of curriculum materials should be included in the undergraduate curriculum of teacher education departments at Oklahoma State University.
2. These courses should cover materials from other states as well as those developed in Oklahoma.
3. A course should be included in the teacher education curriculum in agriculture to deal specifically with the subject of cooperative education in agriculture.
4. The curriculum development center in Oklahoma should work closely with similar centers around the nation in the formation of future curriculum materials.
5. Efforts should be made to complete, as soon as possible, a basic core curriculum designed for

Oklahoma VAOT programs.

Summary

The proposed outline is quite general in terms of subject matter. However, it does provide for most of the items listed by the various states reviewed. Many of those items would be included as topics in particular units. Also, this outline provides for a logical progression of knowledge and ability on the part of the student.

With this, the study has completed both of its objectives.

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Master of Science

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