Title: COMPETENCIES NEEDED IN OFF-FARM AGRICULTURE BASED ON A SURVEY OF AGRICULTURAL INDUSTRY IN THE VALE AREA

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Agricultural education is emphasizing all phases of agriculture in an attempt to help provide sufficient numbers of trained employees for agricultural industry. This is reflected by areas of instruction encompassing production and off-farm agriculture. Students receive supervision in production and occupational experience at home and with local off-farm agricultural business firms.

The purpose of this study was to determine a core of competencies and related information about which group instruction may be given. The purpose of such instruction is preparing a student for selecting and advancing in an agricultural occupation of his choice.

Businesses were consulted in the geographical area of Vale, Nyssa, and Ontario, Oregon to determine the need for employees with an agricultural background. One-third of the firms were interviewed personally to determine general competencies looked for in
agricultural employees.

The study revealed that students with an agricultural background are in demand. Most off-farm agricultural occupations (now and future) are located with farm machinery, feed, seed, fertilizer and chemical and ornamental horticultural firms.

This study revealed that 61.12 percent of all employees in the Vale area need an agricultural background. Training in vocational agriculture provides desirable background experience for employment in most firms. Farm work experience was rated as essential by a majority of the firms interviewed.

Production agriculture should be the core program to provide basis for experiences needed to successfully enter and advance in an off-farm agricultural occupation.

Close cooperation should be established with farm machinery, fertilizer and chemical firms as they provide the largest number of employment opportunities now and anticipated in the future. These firms also provide opportunity for cooperative work training experience during seasonal rush periods as do service stations and food stores.

The competencies of most concern to employers interviewed, and around which instruction should be developed, were those involving human relations and salesmanship.
COMPETENCIES NEEDED IN OFF-FARM AGRICULTURE
BASED ON A SURVEY OF AGRICULTURAL
INDUSTRY IN THE VALE AREA

by

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CHAPTER I

INTRODUCTION

Agricultural education in public high schools is undergoing change. Where the emphasis was formerly on production, the program now includes production along with processing, distributing, and servicing. This change is reflected in all areas of instruction.

The purpose of Public Law 88-210 (Vocational Education Act of 1963) was and is

...to authorize Federal grants to States to assist them to maintain, extend, and improve existing programs of vocational education, to develop new programs of vocational education, ...so that persons of all ages in all communities of the State...will have ready access to vocational training or retraining which is of high quality, which is realistic in light of actual or anticipated opportunities for gainful employment, and which is suited to their needs, interest, and ability to benefit from such training.

The Vocational Education Act of 1963 clearly states that,

Any amounts allotted...for agriculture (instruction) may be used for vocational education in any occupation involving knowledge and skills in agricultural subjects, whether or not such occupation involves work of the farm or farm home... (55, p. 9).

Four aspects of agriculture; production, processing, distributing,
and servicing are found in Malheur County. It is conceivable that some job opportunities are available in each of these areas. The opportunities may be limited, however, because the County is sparsely populated. There are fewer than three people per square mile, with 74.9 percent of the County in Public Lands (43). The Vale area includes ranching, dairying, row crop farming, and diversified farming (a combination of crop and livestock) in agricultural production and processing, servicing, and distribution firms in off-farm agriculture.

In present programs of vocational agriculture, all agricultural agencies in the community work together to educate the youth and adults. The local teacher of agriculture proposes to coordinate these cooperative community efforts to serve each high school and post high school student in meeting his occupational objective. According to Cushman, Christensen and Bice,

the agriculture course of study in school districts presently offering instruction in agriculture should be expanded to provide greater opportunity for preparation for off-farm agricultural occupations.

Training programs for off-farm agricultural occupations should embrace the areas of agricultural competency most needed by workers in those families and groups of families of occupations in which the largest proportion of employment opportunities are found in the geographical area in which the school plans to place its graduates (20, p. 189).

At Vale Union High School the writer plans to provide training
for off-farm agricultural occupations. This will be done by group and individual instruction in the classroom and cooperative work experience in local business firms. The objectives are to teach the youth to be good citizens, students, and agriculturalists in that order.

The vocational agriculture instructional program involves local agencies and businesses in the educational system by way of lesson presentation, educational field trips, and cooperative work experience with in-school youth. Offerings in the past have stressed production agriculture. The present program recognizes the basic production phases but also stresses the off-farm occupational picture as can be seen through the major objectives for agricultural education which are:

1. To develop agricultural competencies needed by individuals engaged in or preparing to engage in production agriculture.
2. To develop agricultural competencies needed by individuals engaged in or preparing to engage in agricultural occupations other than production agriculture.
3. To develop an understanding of and appreciation for career opportunities in agriculture and the preparation needed to enter and progress in agricultural occupations.
4. To develop the ability to secure satisfactory placement and to advance in an agricultural occupation through a program of continuing education.
5. To develop those abilities in human relations which are essential in agriculture occupations.
6. To develop the abilities needed to exercise and follow effective leadership in fulfilling occupational, social, and civic responsibilities (54, p. 4).
The efficient production of agricultural commodities requires many goods and services usually provided by specialized businesses. The productivity of the agricultural economy will be influenced by the competencies of the workers in these businesses. Therefore, appropriate educational programs must be designed, not only for those who will produce agricultural commodities, but also for those who are engaged, or will engage, in other agricultural occupations—the processing, distribution, and service segments of agriculture (54, p. 7).

In 1965 the author attended a workshop in off-farm agricultural occupations at Oklahoma State University. This was followed by a similar workshop at Oregon State University in the Summer of 1966. Both of these activities have intensified the interest in developing a program in the Vale community that will meet student needs in off-farm occupations.

Statement of the Problem

The Malheur County Extension Agents' annual report for the year 1966 (44), indicates many of the farm families have one or more of their members working off the farm due to higher production costs. Farms that only a few years ago were considered economical units are no longer able to support the farm family. Reports such as this point out a need for training in off-farm occupations aimed toward developing competencies desired by employers. By having the desired competencies, each citizen will be in a better position to select an occupation in keeping with his occupational objectives.
The writer's goal is to design an appropriate educational program in vocational education in agriculture emphasizing the non-production agricultural occupations for the students attending high school at Vale, Oregon.

The fundamental problem in planning an effective program in off-farm agriculture is the lack of information concerning the agricultural industries of the Vale area. To help overcome the problem, the following items appear pertinent in this study:

1. To identify those firms that have employees needing agricultural competencies.
2. To determine the future employment opportunities in these agricultural industries.
3. To determine the competencies needed for entry and satisfactory performance in these agricultural industries represented.

**Purpose of the Study**

Information supplied by fifteen states indicates that about fifty percent of the jobs available in off-farm agricultural industries can be filled by people with a high school education (18). Chapter two will contain more detailed information on this area.

The primary purpose of this study is to determine a core of
competencies about which group instruction may be given to prepare students for employment and successful advancement in off-farm agricultural industry. A secondary purpose is to secure the following information:

1. Locating the firms hiring people and willing to provide cooperative work training for high school youth.

2. Determining job opportunities in the next five years due to growth of agricultural industry in the Vale area.

Limitations of the Study

The author identifies the following limitations as significant in this study:

Geographical. The initial survey will cover the businesses in the town of Vale, Oregon and in case some important services are not found here, the investigator will include firms in Nyssa and Ontario, the two larger service areas of Malheur County.

Time. The amount of time available limits the number of interviews that can be made, as well as the travel time in distance separating Vale and Corvallis.

Competency. The study is limited to the isolation of competencies other than agricultural skills and abilities needed in off-farm occupations.
Procedures of this Study

The first step in this study is to review investigations in other states and in other localities in Oregon which are similar in one or more aspects to the problem facing the author, thereby providing a basis for comparing the results with what has been done elsewhere. With this in mind, two instruments will be developed to gather specific information by mail and personal interview from businesses and agencies in Vale. All businesses and agencies listed in the telephone directory will be mailed the initial questionnaire and if some important businesses are not reflected in Vale, the larger geographical service area of Nyssa and Ontario will be included for those services.

A follow-up will be made by interview of approximately thirty percent of the questionnaire respondents. A checklist will be utilized to obtain detailed and pertinent information discussed during the interview, which will be tabulated and analyzed to aid in establishing the group instructional areas.

Definition of Terms

For reasons of clarity the following terms are defined:

1. Agricultural firms, agricultural industries. These terms are used synonymously in describing those businesses engaged in agricultural work, production and nonproduction
agriculture.

2. Competencies. Knowledges, skills, and abilities that make an employee more valuable.

3. Cooperative work experience, cooperative work training. These terms are used synonymously in describing the activity involving a student, under written agreement, in a cooperative educational situation with school, student, parents and employer. The student is placed with an employer on an actual employment basis. Related classroom instruction also is given in school during the time of employment. The student spends a portion of his regular school hours with the employer and is supervised periodically by the teacher.

4. Occupational Education. A term used to designate high school and post high school training for entry or progression in an occupation. Such training does not lead to a baccalaureate degree.

5. Off-farm agriculture, off-farm agricultural industries. A term designating businesses and agencies that assist production agriculture in producing products, changing the form of the products, and getting them to the consumer.

6. Off-farm agricultural occupations. This term refers to
identifiable occupational titles in off-farm agricultural agencies.

7. Training station. A term referring to a firm in which a student is placed for cooperative work training.

8. Vale area. This term refers to the towns of Vale, Nyssa and Ontario. The town of Vale did not have businesses in farm equipment, marketing, and servicing areas. Nyssa and Ontario furnished these businesses.

9. Vocational Education. A term used to designate all those experiences in secondary schools whereby a person learns to carry on successfully in any useful occupation.
CHAPTER II

REVIEW OF LITERATURE

Background and Needs

In recent years agriculture in the United States has changed in a startling fashion and at amazing speed. The greatest overall change in concept is that agriculture is more than farming.

Julian Campbell states,

...that fewer students can enter the occupation of farming, but an increasing number of rural boys will look for employment opportunities offered in off-farm occupations and related fields. Therefore, the objectives in the vocational agriculture program have been broadened to encompass the broad field of agriculture which includes: (a) the processing and marketing of farm products; (b) farm production; and (c) the providing of services and supplies for the farmer (14, p. 31).

There are many challenges and opportunities for education in agriculture during the years ahead. Each farmer and prospective farmer will become more important as the country's population increases.

The need for trained individuals in all phases of agriculture will continue as the nation becomes more urban. The vocational agriculture program must be designed to meet these needs.

The purpose of vocational education is to help each individual meet his occupational objective. This adds the opportunity to
coordinate the employment desires and abilities of the individual with needs and opportunities of the labor market in our society.

Congress has passed several measures of legislation which provide means for helping the unemployed and the underemployed wage earners. Among these acts is the Manpower Development Training Act. Smith suggests the following groups in agriculture which may be served under the Manpower Development Training Act:

1. Unemployed farm workers.
2. Farm workers who are working below their skill capacity.
3. Persons whose present skills are now becoming obsolete.
4. Members of farm families with less than $1200 annual net income.
5. Farm youth 16 years or older.
6. Farm operators who are not eligible for training allowances.

The possibilities of training in off-farm agricultural and related occupations are no longer limited by legislation but by vision, insight and energy of state and local leaders. (47, p. 25).

The Vocational Education Act of 1963 as discussed by Arnold (4) is capable of providing:

1. A program geared to meet the needs of the labor market, both immediate and future, on the local, state and national level.

2. Programs to prepare students for employment in a great variety and range of jobs.
3. Education for all citizens from the least able and disadvantaged to those of a high level of technical ability.

4. A program that is capable of being conducted in any type of school or educational institution from a high school to a four year college.

5. Periodic evaluation of the goals and the progress being made. Each state is required to evaluate its program in continuous light of labor market needs.

6. Ten percent of the total appropriation which is $225 million or more each fiscal year is reserved for research. The United States Commissioner of Education makes grants to colleges, universities, state boards, local educational agencies, and other public or non-profit agencies and institutions for research and development.

Service industries are employing most of the work force—in fact according to a 1964 report (7) a total of 8.6 million more people were employed in services than in 1953. This growth accounts for 1.2 million more people being employed in this area than a year earlier.

A fundamental problem is that children must be educated for an unforeseeable changing society. Krebs (34) suggests continued evaluation as part of the answer. Evaluation will need to be made
on the local, state and national levels at least every five years in light of manpower needs, current and projected job opportunities, and the effectiveness in meeting these challenges.

Living in a changing society, each local and state educational organization to be effective, will need to keep alert to changing needs rather than trying to follow a set pattern for all.

Couper reports on a situation in California:

Still the first ranking state in value of its agricultural production, California's heavy emphasis upon products that require extensive hand labor provides an unusual potential for short-term employment of semi-skilled workers.

...the unemployment rate for out-of-school youth is critical. Part-time job opportunities for in-school youth are meager and attempts to find employment for the sixteen to twenty-one age bracket have encountered serious obstacles. ...the State Departments of Education and Employment are focusing attention upon seasonal agricultural work, such as picking fruit, harvesting vegetable crops, hoeing and thinning sugar beets, and working in packing sheds as part of the answer to the youth employment problem (19, p. 13-14).

Speaking in favor of school time apprenticeships, Russell (46) indicates that there is nothing within the four walls of a school classroom which guarantees that, within a given time, functional learning will take place. Many of the good, gifted students have their after school hours effectively scheduled. Thus, their hours during school
time are very important and could be used effectively for a school time apprenticeship program.

Curriculum changes will, in most cases, need to be made to meet the needs of the student who has not been trained well in view of his occupational objectives. Cecil reports,

...many home economics teachers have been expanding their offerings to include one-year courses in homemaking for seniors. ..... the objective must be keyed to the special needs of these students and cannot include comprehensive offerings included in a two or three-year homemaking course (15, p. 26).

Henderson (30) believes that the high school program of occupational education in agriculture to be sufficient must be a four-year program, for the development of leadership, mechanics, plant and animal science, and decision making skills.

In a survey of New York State Cushman, Christensen and Bice report:

Although full-time workers in off-farm agricultural occupations are found at all levels of employment, they are most frequently found in semi-skilled, skilled, and managerial positions. Part-time workers are most likely to be found in semi-skilled positions (20, p. 185).

Kentucky has had many capable students taking vocational agriculture who did not, for one reason or another, attempt to become established in farming. Likewise, there have been many farm boys who did not take vocational agriculture, who should have, because they, their parents, school people and others thought that the training would lead only to farming.
The people in vocational agriculture and the people in agricultural business in Kentucky have known for a long time that abilities in farming developed through training in vocational agriculture are definite assets to those who enter other agricultural occupations. In addition, there has been a very keenly felt need for training programs in agricultural occupations other than farming (8, p. 162).

Stevenson reports:
In Oklahoma a survey of some seven hundred agricultural related businesses was conducted to determine the needs of these businesses. Approximately two hundred job titles in ten types of businesses were considered in over two thousand job title interviews. Employers in these businesses reported a definite present and future need for trained young men to work in their companies. These managers expressed considerable interest in, and willingness to assist with, a program in vocational agriculture which would make trained employees available (50, p. 236).

In the words of Lamb, Secretary of New York Farm Machinery Dealers Association,

We need smart young men in our industry, but let's get the calibre of student who is adapted for this field and teach him the fundamentals of mechanics. If possible, let's teach some of them to become partsmen, salesmen, or managers. In short, let's gear this program more specifically to our needs. Let's teach them the importance of neatness, cleanliness, loyalty, and efficiency (35, p. 45)

Opportunities

The employment opportunity outlook in off-farm agricultural occupations provides a basis for its inclusion in the agriculture program.
approximately four or five out of six will be seeking employment in business and industry where sales work is the largest beginning opportunity... (38, p. 174)

affirms a Swift and Company public relations employee.

Tenny identifies four distinct groups of students whose future occupation will require knowledge and skill in agricultural subjects:

1. Those who plan to engage in production agriculture...
2. Those who enter non-farm (off-farm) agricultural occupations directly from high school.
3. Those who obtain further technical training after high school in preparation for specific agricultural occupations.
4. Those who continue their education beyond high school for entering the agricultural professions (52, p. 211).

Stevens identifies the following occupational areas in agriculture:

AgricuItural supplies. Examples of occupational titles in agricultural supplies, in which workers need knowledge and skills taught by schools in courses in agriculture, are agricultural supplies manager, agricultural chemicals fieldman, seed salesman, fertilizer applicator and feed mill equipment operator.

Agricultural Mechanics. Examples of job titles are agricultural mechanics service manager, agricultural machinery salesman, agricultural mechanics partsman, and agricultural machinery mechanic.

Agricultural products (processing and marketing). Examples of food marketing occupations in which technician level knowledge and skills in agriculture are used are meat processing manager, fruit and vegetable market manager, livestock buyer, dairy processing equipment operator, grain elevator operator, agricultural commodity grader, and quality control technician.

Ornamental horticulture. Examples of ornamental horticulture job titles are florist, greenhouse manager, nursery grower, garden center salesman, landscape aid,
greenskeeper and tree pruner.

Forestry. Some occupational titles in forestry for which technical education is appropriate are forestry aid, Christmas tree grower, sawmill operator, logger, and log scaler.

Agricultural resources. Examples of agricultural resources occupations in which vocational and technical education in agriculture may be used are recreation farm manager, soil conservation aid, wildlife conservation officer, fish hatchery worker, game farm worker, and park worker (49, p. 104-105).

Other agriculture. Examples of other agricultural occupations are vocational agriculture instructor, county agricultural extension agent, ASCS compliance supervisors, and farm loan officer (49, p. 110).

In a summary of off-farm businesses in twenty-six states, the Center for Research and Leadership Development in Vocational and Technical Education (51) indicate that approximately half of all off-farm agricultural businesses need employees with education or training in agriculture. Employers expect a twenty percent increase in numbers of employees by 1970 with agricultural supplies sales and services, ornamental horticulture, livestock and food crop products, marketing and distribution showing greatest prospect for growth. Competencies needed are dependent upon the product handled by the employee. Some human relations and business competencies are needed by all employees in agricultural occupations. Effective training would make it possible for new employees to earn higher wages.

In a summary of a fifteen state research study, Chiesa found,
The estimated percentage increases in the next five years in numbers of workers needing agricultural competencies... indicates the median is about 20 percent. This may be divided by five to represent an increase of 4 percent annually. Many reports include data on the total numbers of replacements as well as added new positions. Hiring of replacement workers is largest in businesses that have the most part-time employees.

Agricultural machinery workers form a larger percentage of the total in the states known as predominant commercial crop producing areas. The agricultural supplier figures are large, primarily in farming states. Large numbers of employees in ornamental horticulture were found in states with greater urban populations (18, p. 6, 9).

A survey made by Amberson in Montana (2) indicates that in 350 businesses, 262 people would be hired immediately if they were trained and available. The greatest personnel needs were in the areas of:

farm implement mechanics, farm implement salesmen, partsmen, servicemen, equipment assemblers, and bookkeepers (2, p. 168).

In an Iowa study, Powell and Bundy (45) point out the employment opportunities in retail fertilizer distribution:

Future employees being trained must learn skills, abilities, and understandings in dealing with a broad range of agricultural commodities as shown by more than one-half of the firms handling grain, feed, and fertilizer with only 25.8 percent of the firms handling fertilizer alone.

Based on the 309 responding firms of 339 firms, there were 6137 full-time male employees in 1959, 7286 in 1964, and 9632 anticipated for 1968 in firms retailing fertilizer in Iowa or 32.4 percent more full-time employees anticipated in 1968 than in 1964. With allowance for retirement and employee turnover, job opportunities of 3939 full-time male employees were shown from 1964 to 1968. A need for 654 fertilizer salesmen, 905 other unspecified employees,
532 servicemen, 328 clerical workers, 261 feed salesmen, 229 assistant managers, 177 heads of fertilizer departments, 157 feed mill men, 151 heads of feed departments, 115 managers, and 105 elevator men from 1964 to 1968 were shown. There were 3290 total part-time employees in 1963.

The route to managership tended to pass through the job categories of service or clerical personnel moving to sales positions or becoming heads of fertilizer or feed departments, then to assistant manager or manager positions.

Present and future expanded programs of vocational agriculture in high school may serve to prepare future employees for service, clerical, and unspecified other job categories where 2090 job opportunities were anticipated from 1964 to 1968 or 522 per year or about two employees per present vocational agriculture department in Iowa. With additional experience and training some of the employees then might move through sales jobs to managerships. Vocational agriculture departments in the high schools might also cooperate with area post high school technical training centers in updating and training present employees of the retail fertilizer distribution industry in Iowa.

There were 3.8 full-time male employees per firm in 1959, 4.4 per firm in 1964, and 5.1 anticipated for 1968. Mean employee age was 35.6 years compared to 42.8 years for managers. Servicemen and unspecified other job categories tended to have more men in the younger age brackets than other categories. Number of employees in sales and unspecified other categories decreased after age 35, but increased from age 41 to 50, and then decreased again (45, p. 32).

From his study in Oklahoma Stevenson found that, 

Employers estimated a 34 percent increase in the number of employees needing agricultural competencies within the next five years. During this same period of time, over three thousand new employees with training in agriculture will be needed. This indicates a need of supplying over six thousand agriculturally trained employees to these businesses in Oklahoma. Types of businesses which emerged as indicative of greatest need were ornamental horticulture, agricultural machinery, and agricultural supplies (50, p. 236).
Cushman, Christensen, and Bice (20) supply the following information from a study of off-farm agricultural occupations in New York State:

High school agriculture programs in New York State must be vastly expanded if the demand for workers in the off-farm agricultural occupations is to be filled with agriculturally trained individuals. Existing high school agriculture programs in the State are graduating approximately 1,553 young men (1964). Of this number, approximately 431 enter farming immediately (20, p. 487).

A recent University of Wisconsin study (36) indicates that ten years from now 50 percent more workers will be required to fill the employee needs of the off-farm agricultural businesses included in their survey.

In a study of the off-farm agricultural businesses in Yamhill County, Oregon, Multanen says,

This study indicates the future for new employees in off-farm occupations seems favorable. Not a single firm could foresee a possible decrease in the need for agriculturally oriented employees (39, p. 33).

Of the agricultural occupations in Clatsop County, Oregon, Johnson (32) found a total of 359 firms and of this number 207 were off-farm agricultural businesses.

Competencies

A summary of Chiesa's study reveals:

The survey studies in off-farm agricultural occupations
have brought out many instances in which vocational agriculture may support, or be supported by, other vocational subjects taught in the comprehensive high school. More of this type of supporting education must be included in curriculum planning if vocational education is to be effective in preparing youth for the complex world of work. One example of this need for supporting education is found in the area of clerical workers in off-farm agricultural businesses. Many of the students taking business education in high school will go into jobs in off-farm agricultural businesses. (18, p. 17).

Moeller suggests as important items:

- being able to read a trial balance sheet, write and talk effectively, principles of business leadership and management plus others (38, p. 175).

It is recommended by Tenny (52) that all students in agriculture have several things in common:

1. Need for knowledge and skills in agricultural subjects.
3. Need the responsibility of keeping records and making decisions found in the supervised practice program.
4. Need the leadership training provided by the activities of the Future Farmers of America.

Matteson and Bjoraker (36) relate that in a study they conducted, employers of off-farm agricultural businesses placed high value on the employee's ability in public relations and business management skills and knowledge.

More specifically, for initial employment the employers collectively ranked making decisions accurately, first; keeping records and accounts, second; diagnosing problems and consulting, third; and estimating costs and buying
ability, fourth. For employee promotion prospects they also ranked making decisions accurately, first; but placed diagnosing problems and consulting, second; followed by estimating cost and buying ability, third; and keeping records and accounts, fourth.

All components of the public relations variable received a valuable or higher rating from the employers collectively for promotion and all but three received this value rating or higher for initial employment (36, p. 178).

When the areas of agricultural competency most needed by workers in the several occupational families are weighted by the annual employment opportunities per school district, it appears that training programs should emphasize the development of competencies in:

(a) Agricultural business and agricultural mechanics for prospective workers in all occupational families.

(b) Plant science for prospective workers in Crops Marketing and Processing, Forestry and Soil Conservation, Wildlife and Recreation, Ornamental Horticulture and Agricultural Service occupations.

(c) Animal science for prospective workers in Dairy Manufacturing and Processing, Livestock Marketing and Processing, Other Livestock Industry and Farm Service occupations.

(d) Forestry, conservation and outdoor recreation for prospective workers in these fields (20, p. 185).

Students with a farm background and vocational agriculture training should have a thorough working knowledge of the following factors:

1. Availability of markets.
2. Prices received for products.
3. Farm business analysis procedures.
4. Size or volume of business.
5. Selection and combination of enterprises.
6. Rate of production.
7. Labor efficiency.
8. Best utilization of available resources.
9. Financing
10. Decision making processes (17, p. 50)

A Kansas study reported by Agan (1) states that the average employee's duties in an agricultural off-farm occupation were rated as follows:

1. The employee works with people outside the firm (28%) of the time.
The employee should be able to: meet farm people, meet non-farm people, diagnose, consult, and advertise, sell, estimate costs and buy wisely.

2. The employee works with equipment, tools, and supplies (28%) of the time.
The employee should be able to: Operate properly, maintain, adjust, and inspect and trouble shoot.

3. The employee works with business problems (21%) of the time.
The employee should be able to: Keep records and accounts properly, make decisions wisely, handle money properly.

4. The employee works with production and service (15%) of the time.
The employee should be able to: make use of technical and service manuals, inspect for weaknesses, assemble and mix products, and plan production.

5. The employee works with personnel in the firm (8%) of the time.
The employee should be able to: handle men, and train others (1, p. 15).

Harold Binkley (8) reports:

Even though the general competencies are not agricultural in nature, they were felt to have a definite bearing on one's successful employment in an agricultural-supply business. All competencies listed here were rated by 85 percent or more of the employers as being 'very helpful' to their employees in the successful operation of the businesses. Ability to:

Accept and carry out responsibilities
Maintain a good personal appearance
Have a good attitude toward:
  a. Customers
  b. Fellow workers
  c. Supervisors

Be honest
Have initiative
Have enthusiasm
Be prompt in reporting for work
Have foresight and plan ahead
Be attentive at work
Be accurate in work
Care for work space or area (keep neat, straight, and orderly)
Care for materials, tools, and equipment
Make effective use of working time
Develop speed and accuracy in work
Follow instructions
Direct and supervise others
Be cheerful
Make basic mathematic calculations accurately
Write legibly and make distinct figures
Be careful with property on farms, fields - gates - equipment
Practice safety
Drive a car - truck safely (8, p. 35)

The chart that follows shows the result of findings as given by Stevenson (50):

Competencies Desired by Most Employers
(700 Businesses, 200 Job Titles, 2000 Job Title Interviews)
(No Importance-1, Some Importance-2, Very Important-3)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Competency</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Customer Relations</td>
<td>2.69</td>
</tr>
<tr>
<td>2</td>
<td>Writing</td>
<td>2.64</td>
</tr>
<tr>
<td>3</td>
<td>Salesmanship</td>
<td>2.55</td>
</tr>
<tr>
<td>4</td>
<td>Safety</td>
<td>2.52</td>
</tr>
<tr>
<td>5</td>
<td>Public Speech</td>
<td>2.34</td>
</tr>
<tr>
<td>6</td>
<td>Employee Relations with Fellow Workers</td>
<td>2.28</td>
</tr>
<tr>
<td>7</td>
<td>Experience in Management Decisions and Problem Solving</td>
<td>2.25</td>
</tr>
<tr>
<td>8</td>
<td>Inventory, Stock Control, and Warehousing</td>
<td>2.17</td>
</tr>
<tr>
<td>Rank</td>
<td>Competency</td>
<td>Rating</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>9</td>
<td>Receiving, Marking, and Shipping</td>
<td>2.11</td>
</tr>
<tr>
<td>10</td>
<td>Employee-Supervisor Relations</td>
<td>2.08</td>
</tr>
</tbody>
</table>

(50, p. 237).

Research in Oklahoma indicated that agricultural competencies needed were determined by the type of business and by the level of employment at which the person was working (50, p. 237).

**Experience**

Many studies have shown that a farm or rural background was preferred by most agricultural businessmen interviewed. The more farm experience an employee had the greater the value expressed by employers for both initial employment and promotional opportunities.

Managers with more farm experience after age twelve tended to have fewer positions before becoming managers (45, p. 32).

The types of jobs and the work activities involved are changing rapidly, making it important for students to know more about the requirements of the world of work. The number of jobs requiring little or no training is declining steadily.

Three types of work experience programs are mentioned (in California)—exploratory, general, and vocational.

The exploratory program is really a guidance program where a student spends a specified number of hours (school) at a variety of jobs for the purpose of determining his occupational suitability.

General work experience provides the students with part-time employment, helping them to become responsible citizens and need not relate to the occupational objective
of the student 'pay is received for outside work.'

Vocational work experience provides the student with employment for which his specific courses at school are preparing him. In this way, the employment serves as a practical laboratory for strengthening his in-school occupational education classes. 'Students receive both pay and credit for this kind of work.' 'If the number of senior and four-year high schools offering work experience education could be sharply increased, a note-worthy decline in the dropout rate might be noted.'

There must be a need and a desire on the part of the student in the district to participate in the program. Each student should be critically analyzed for interest and competence in the training desired. Choosing students is always a difficult problem. The school has a 'public image' to maintain; the image can be damaged from students poorly selected. If a boy doesn't fit, keep him from being placed in the program! (42, p. 180).

Certain school systems are finding that one procedure, which may be called 'school-time apprenticeships for the gifted,' is proving beneficial in many ways. This is along the lines of 'released time' and merely means that plans are made for applicable activities which take place during school time and in most instances off school property. This is done when school personnel feel that there is a particular individual or agency in the community that is more capable of promoting certain learning products and experiences than the school itself (46, p. 417-418).

In the new approach the cooperative part-time position becomes the entry job in a series of occupational experiences that through the years make up a career in distribution.

The career development viewpoint allows for greater freedom and more time in Vocational choice making and an opportunity to explore a large family of occupations.

The career development viewpoint makes D. E. much more attractive to guidance counselors, school administrators, faculty members, employers, and particularly to able students (37, p. 5).

Youth organizations will continue to be important in the
development of desirable employees regardless of the occupation a
student might choose. Bender (6) suggests that one of the significant
contributions in vocational education has been the development of
youth organizations. He further states:

They have made vocational education more attractive
to students and have served well in promoting learning.
They have supplemented vocational education and other
courses with needed learnings, such as leadership abilities, not otherwise provided.

The need for the education of youth for leadership and
citizenship responsibilities will always remain; however, some of the specific means will need to be changed. If sound leadership is provided, youth organizations will continue to be an effective part of vocational education (6, p. 6).

Cushman, Christensen, and Bice report:

A high school education is sufficient for full-time workers
in the vast majority of off-farm agricultural occupations
but advanced training is a definite requirement in some job titles. Employer reports indicate that only 17 percent
of such workers need more than a high school education.
However, job titles such as county agricultural agent,
teacher of agriculture and veterinarian require advanced
training for entrance (20, p. 185).

Additional information concerning educational attainment is
submitted by Chiesa:

Information supplied by fifteen states indicated that
about fifty percent of the jobs available in off-farm agricul-
tural businesses can be filled by people with a high
school education. Only ten percent require a minimum of
less than high school graduation. This raises a question
when compared with the minimum age requirement as
specified by the employers interviewed. In most cases,
employers were unwilling to hire employees under about
twenty years of age. This condition leaves a gap of two
or three years which must be filled before the high school graduate can go to work. Additional education beyond high school seems to be logical in order to fill this gap. However, a more thorough and complete training program on the high school level might lower the minimum age requirement (18, p. 18).

In twelve states (Alabama, Arizona, California, Colorado, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Montana, Oklahoma, and Pennsylvania) surveys, employers were asked to indicate a preference of rural or urban background of new employees. The range among states was from thirty-eight to ninety-two percent. Half of the states were within five percent of the median of 63 percent. Farm experience was considered to be an important asset and a definite advantage to beginning workers seeking employment in off-farm agricultural occupations.

Many reasons were given by employers for their preference for young men with farm experience. The farm youth have a store of marketable knowledge which educators and counselors might take for granted but which an employer values greatly. To the employers interviewed, another advantage of a farm background is that a young man with this background has learned to work. Through experience, business managers have learned that rural youth can and will work hard. They are punctual, have orderly work habits, and accept responsibility. Young people with a farm background know how to talk farmer's language. They respect farmers and are sympathetic to farm problems. For these reasons, employers are looking for people with a farm background (18, p. 20).

If an employer has to teach an employee all of that which the farm-raised boy knows automatically, the training period will be much longer. Another advantage of a farm background, as expressed, was that such a young man has developed much more positive attitudes toward work. Such a willingness to work is considered a prime prerequisite and one which not all our young people presently possess. Through experience the business managers have learned that our rural youth can and will work hard. Young men with a farm background know how to talk the farmer's language. They respect the farming profession and are often more sympathetic toward farm problems. For those reasons the owners and managers of agricultural
businesses are looking for men with a farm background (50, p. 236).

Program Coordination

It is generally agreed that teachers of vocational education must possess certain competencies in addition to those required of academic teachers. Among the competencies needed we find: Understanding of career opportunities and the ability to guide students to select appropriate career objectives, experience in and knowledge of career opportunities available, judgment to develop a curriculum which can develop student competencies for entry into occupations and advancement, ability to teach on a group and individual basis, ability to plan occupational experience programs which will involve placement of students with business firms in the community, and effective communication skills (59).

One two-teacher department maintained a program allowing students to make several choices concerning their supervised program: These are on the farm production project, class or school horticulture project, or placement for occupational experience in an agricultural business (33).

Many students who are interested in the broad field of agriculture find it impractical and difficult to gain experience through an ownership project and furthermore, the ownership project may not
provide the breadth of experience gained by another experience more closely associated with their occupational choice. Jurgenson and Davis (31) contend that many employers would like to participate in a cooperative work experience program but many not know how to start and interested students do not know who to consult or how to approach the employer effectively. The point here is that the teacher of agriculture must act as a coordinator to bring the two interested groups together.

Communications are of paramount importance in coordinating a program in off-farm occupations especially when placing students with local businesses as part of their occupational experience projects. Mass media must be used effectively, however the public's complete image of the program will depend on all of the impressions created personally and publicly (40).

The teacher must be informed and kept informed about all aspects of the off-farm agricultural occupations and be careful not to provide guidance until the student's goals have been considered and discussed with the parents. All need to assist the boys in finding placement in off-farm agricultural occupations (48).

One illustration of the need for establishing all vocational education programs with an advisory board composed of local business people representative of those with whom students plan to work is reported by Andrews, who wrote,
This year, on recommendation of the Minneapolis Retailers, the ten year precedent of Christmas sales training classes for students was discontinued. Each year, and increasingly in more recent years, many students enrolling for this training program were so marginal that employers did not hire them (3, p. 25).

This incident might have been prevented if only one of Fuller's (28) recommendations had been followed. He suggests that employers should be consulted to see how the program can be improved. The other points of his recommendation are as follows:

1. Become familiar with industry of the community and their needs.
2. Determining what knowledge and skill employees need.
3. Develop a course of study that will provide instruction for these skills and knowledge.
4. Find out what kind of jobs will be available.
5. Use the course of study and student interests to plan a teaching calendar.
6. Assist students in planning supervised agricultural experience programs.
7. Follow up classroom teaching with on-the-job occupational training.

Determining the activities in which the student will participate while on the job will have to be worked out between the teacher-coordinator and the employer or cooperating business manager,
and should be based on the ability and occupational interest of the student.

The key to a successful program in Cooperative Part-time Agriculture includes the following factors:

1. Selection of training stations which are interested, will train the students properly, and will furnish a variety of work experiences.

2. Selection of students who are willing to work and learn and who can be placed in agricultural businesses suited to their needs and interests.

3. Instruction in the classroom related to the student's occupation, presented in a variety of ways adapted to the local situation.

4. Having a training plan which is based on the ability of the student, type of occupation, and the actual working conditions of the training station.

5. Regular visitations to the training station by the teacher should be brief, with a friendly attitude, and interest shown in the business and the student (26, p. 103).

Warren (57) suggests another way of coordinating with the employer on a work experience program.

The hours for holding a distributive education class must be tailored to meet the needs of the community. The educator must accommodate himself to the clientele he serves. For example, the class mentioned above was offered at 8:30, prior to store opening, six days a week.

Classes may have to be scheduled very early, 6:00 A.M., and as late as 10:00 P.M. (57, p. 25).

The teacher needs to spend many hours with each cooperating employer to properly prepare him in his 'new' educational role. These contacts must be made before the students are enrolled. The employer must be convinced that this is a training station and not just a place for the
student to work.

Sixty-two percent of the teachers and 58 percent of the employers interviewed recommended that the teacher visit once every two weeks during the year. They indicated that frequent visitation was necessary to maintain a thorough understanding among the employer, the student, and the school (42, p. 181).

A teacher from Kingston, Massachusetts developed four major course areas and rounded out the vocational curriculum with a cooperative work experience program with many off-farm businesses representing many occupations. The course areas are as follows:

1. **Horticulture**—landscaping, floriculture, forestry, fruit and vegetable production, nursery business, garden center operations, soils, landscape architecture, tree surgery, and conservation.
2. **Service Technology**—Agricultural mechanics, drawing, machinery, soil conservation, general dairy and poultry, plumbing, metal lathe, welding, engineering, tractors, custom work, gas engines, general construction, forage crops, and electricity.
3. **Food Distribution**—processing, retailing, meats judging, preservation, sales, advertising, merchandising of vegetables, milk, fruit, poultry, quality content of food, and chain store operations.
4. **Agricultural Science**—plant science, genetics, bacteriology, animal husbandry, agricultural mathematics, agricultural economics, veterinary science, plant pathology, agronomy, crop production, dairy science, agricultural engineering, and poultry science (27, p. 174-174).

Since the early days of apprenticeship training, the "learning by doing" approach to vocational competencies has proven effective. By relating his on-the-job experiences, the student can see how his present activities will help lead him to his ultimate career.
choice. When this happens, the student begins to look upon his job in a new light. He begins to value his experiences more, and because he does, he gets more value from them (11).

In order for an agriculture teacher to be effective in occupational guidance, he will have to sell the parents, students, and the employers on the importance of the program.

Vocational guidance involves self analysis and job analysis to help students select careers. A career is defined as the progressive sequence of positions held by an individual during his working life.

It must be recognized that the individual changes over a period of time and that the world is changing rapidly. The educational offerings too must change rapidly to keep from becoming stale (13).

The primary concern of the high school phase of vocational education in agriculture is the Student--providing him with the greatest opportunities possible for developing his interest, knowledge, understandings, and abilities in the expanding field of agriculture--finally preparing him for a vocational occupation in agriculture (24, p. 250).

Supervised practice or work experience is planned as an integral part of the vocational education in agriculture curriculum. This supervised practice consists of those learning experiences, related to instruction, which require development beyond the normal school hour and class facility. It should utilize the realistic work opportunities made available at the home, the farm, the school, and community businesses for developing desired and needed student
competencies in agriculture (24).

In order to help the teacher of agriculture select students with an aptitude in agriculture a short objective or preference test (56) is useful to measure vocational agriculture interest. An investigation was undertaken in order to construct and select appropriate interest inventories for which scoring keys were developed to measure vocational agriculture interest. The system was tested by twenty South-Central Pennsylvania high schools and proven to be effective and successful. This interest inventory test will be of great value to guidance counselors and teachers of vocational agriculture as they assist students to make long range educational and occupational decisions.

Developing a program of vocational agriculture in an urban center will necessitate changes in the traditional program. Woodin (60) gives the following points for consideration:

1. Student numbers should not exceed 25 per teacher.

2. The school must take a greater responsibility in providing occupational experience—greenhouses, garden areas, and similar facilities.

3. Such training must reach potential dropouts before they quit school.

4. The training must be for specific employment.
5. Placement and follow-up of students on the job are essential.

6. More individual instruction will need to be given to each student.

Within the field of agriculture itself there is a wide latitude in careers, with many levels of skills, aptitudes, and education. The high school agriculture teacher must make available to his own pupils, to the student body as a whole, faculty, parents, and community, information on the hundreds of agricultural and agricultural-related occupations, together with information on agencies and institutions providing further training (41, p. 204).

With fewer people in production agriculture, more of the labor force is engaged in off-farm employment, in fact, additional new jobs are being created daily. Business people are willing to work with youth by training interested students in their businesses. The teacher and the employer should come to an understanding and perhaps a realization that the combined cooperative effort is a training program rather than a part-time job for the student to earn spending money (30).

Wilma April, Home Economics instructor at Sikeston High School instituted an ambitious wage-earning course in home economics.

Women of the community could employ the girls, after school hours, for 60¢ per hour while still in training and $1.00 per hour after the course was finished. The class met one period daily for the entire year to complete the training period. Thursdays class period of each of the first 12 weeks, the girls went into local homes (pairs of girls in a different home each time) and did various jobs as related to the unit of study in class.
An objective outline was used in setting up the course. An evaluation device was used by each adult homemaker in rating each pair of girls' work. The marked evaluation device was not shown to the girls but given to the home economics teacher. Written evaluations from students were also requested from time to time (10, p. 15).

All of the teachers, administrators, and cooperating employers interviewed recommended released time from school for on-the-job training, however, 62 percent of the teachers interviewed indicated that they would not place juniors for work experience during school hours. Sixty-nine percent of the teachers recommended seniors receive one-half day of released time.

In 55 percent of the schools in Ohio, students worked more than 20 hours per week on-the-job. However, the number of hours per week on-the-job recommended by the teachers interviewed ranged from 15 to 25 hours with an average of 18.7 hours. It is interesting to note that 91 percent of the employers recommended 24-30 hours per week on the job as ideal. For the student under 18 years of age, this would be too many hours under the child work laws.

A separate related class for the students on work experience is necessary to develop understandings concerning 'job' problems and meet the needs of the students (42, p. 180-181).

Cooperators desire to have the students do their supervised practice during the busy seasons of the year. For the most part, agricultural businesses in Kentucky enjoy a busy season in the fall, again around Christmas, but the peak of the season is February through May. To place a student for supervised practice when "business is moving" serves two mutually supporting purposes: 1) provides the cooperators with extra help when they need it, and 2) provides meaningful supervised practice when there is work to be done.

Many agricultural businesses who used one student the first year were willing to take two students during the busy season the following year, provided one student could work in the morning and another in the afternoon. One pilot teacher arranged for his class to meet from 11-12 each day. Thus, several students worked from 7 to
10:30 A.M. and were in school the rest of the day. Other students started to work at 12:30 each day, the agricultural and other classes had been met for the day.

Careful selection of students in March of the junior year, securing parent approval, determining the needs of the cooperating employers well ahead of time enables the teacher to help all students work out their class schedules in April or May of the coming year. It is important to meet the needs of the cooperators (8, p. 162).

Two acceptable cooperative education placement plans, as suggested from a seminar held at Ohio State University, are:

1. The all-year program with students in school during the morning hours receiving basic education and job related course instruction, and working at training stations utilizing knowledges and skills acquired for three or four hours daily.

2. Two students may fill a single job with one working during the morning session, and the second working during the afternoon session (16, p. 140).

Summary of Literature

The following conclusions may be drawn concerning the literature cited:

1. Vocational education in agriculture must strengthen the off-farm agricultural offerings to supply the demand for employees needing only a high school education.

2. High school education must articulate with and encourage students to continue their studies at some post-high school institution.
3. Where possible the vocational education services within a school should cooperate to better serve student occupational needs.

4. Local industry must be involved with the local school to provide the student with the proper occupational experience.

5. The number of additional employees needed in the next five years will increase between twenty and twenty-five percent.

6. Students with an agricultural background are in demand by employers.

7. Employees need some competencies that are not agricultural in nature to work successfully in an agricultural occupation.

8. Youth leadership organizations will continue to be of importance if they continue to contribute to the growth of the individual as they have in past years.

9. Occupational on-the-job training classes should, whenever possible, be placed separately to give more specialized attention to the problems and questions students bring from their work situations.
10. Most off-farm occupations are located with machinery, feed, seed, fertilizer and chemical, and ornamental horticulture business firms.
CHAPTER III

FINDINGS

The initial questionnaire was mailed to 94 business firms in the Vale area of which 93 or 98.93 percent were completed and returned. Two of these were not completely filled out, thereby rendering them unusable, leaving 91 usable questionnaires or 96.81 percent of the 94 mailed forms.

The firms were divided into two groups (Yes and No) as each indicated whether or not employees in need of an agricultural background were hired. The resultant tabulation shows 67 firms responding "yes" and 24 firms responding "no" concerning this information. Respondents will hereafter be referred to as "yes" or "no" groups or firms.

The 91 businesses employed an equivalent of 1022.5 persons, of which 625 or 61.12 percent needed an agricultural background in the performance of their work.

The 67 "yes" firms employed an equivalent of 836.5 persons of which 625 or 74.71 percent needed an agricultural background.

A complete listing of the firms used in this study can be found in Appendix I.
As indicated in Table 1, some firms performed several functions.

<table>
<thead>
<tr>
<th>Functions</th>
<th>&quot;Yes&quot; firms</th>
<th>&quot;No&quot; firms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>retailing</td>
<td>32</td>
<td>47.76</td>
</tr>
<tr>
<td>wholesaling</td>
<td>7</td>
<td>10.44</td>
</tr>
<tr>
<td>purchasing</td>
<td>5</td>
<td>7.46</td>
</tr>
<tr>
<td>processing</td>
<td>4</td>
<td>5.97</td>
</tr>
<tr>
<td>manufacturing</td>
<td>1</td>
<td>1.49</td>
</tr>
<tr>
<td>servicing</td>
<td>28</td>
<td>41.79</td>
</tr>
<tr>
<td>warehousing</td>
<td>1</td>
<td>1.49</td>
</tr>
<tr>
<td>transporting</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>constructing</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>other</td>
<td>8</td>
<td>11.94</td>
</tr>
<tr>
<td><strong>Total functions</strong></td>
<td><strong>88</strong></td>
<td></td>
</tr>
<tr>
<td><strong>No. of firms</strong></td>
<td><strong>67</strong></td>
<td></td>
</tr>
</tbody>
</table>

*The percentages are based on 67 "yes" firms and 24 "no" firms.

The functions of the "yes" group are included in all areas with the exception of transporting, while the functions of the "no" group were concentrated in three areas. Both groups point out the importance of retailing and servicing functions in the Vale area. Examples of "other" functions include surveying for "yes" firms.
and county government for "no" firms.

**Interview Sample**

A follow-up interview of both groups was conducted with as equal representation from each group as possible being selected by using a table of random numbers. Twenty-three or 34.32 percent of the 67 "yes" firms and eight or 33.33 percent of the "no" firms were interviewed personally.

Samples of each group were selected to compare findings and look for areas of agreement as well as areas of disagreement. The real interest to the writer however is the response of the "yes" group as they represent firms with which he will be working.

**Sources for Securing Employees**

When seeking employment it is important to know the sources used by firms in securing new employees. Table 2 contains this information for the Vale area.

**Table 2. Sources used for securing employees**

<table>
<thead>
<tr>
<th>Source</th>
<th>&quot;Yes&quot; Firms</th>
<th>&quot;No&quot; Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>State employment agency</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Personal interview</td>
<td>20</td>
<td>8</td>
</tr>
<tr>
<td>Written application</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>College placement bureau</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>27</strong></td>
<td><strong>8</strong></td>
</tr>
</tbody>
</table>

The numbers in the table do not equal the number of firms
interviewed because some firms used more than one method of securing new employees.

**Training Opportunities**

The table below shows the results secured by a checklist used during the interview to indicate the type of training given an individual following initial employment. Some firms provided more than one method for training.

All but one of the firms surveyed provided some type of training for an individual following initial employment.

Table 3. Training provided for new employees

<table>
<thead>
<tr>
<th>Training Provided</th>
<th>&quot;Yes&quot; Firms</th>
<th>&quot;No&quot; Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Formal on-the-job</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Informal on-the-job</td>
<td>17</td>
<td>7</td>
</tr>
<tr>
<td>Specialized courses away from the firm</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>-</td>
</tr>
</tbody>
</table>

The specialized courses away from the firm were used by machinery dealers in the training of their employees.

**Cooperative Work Experience**

The firms were asked under what conditions they would be willing to hire a high school student to work under the supervision
of a high school instructor, in order that he might learn more about the firm or an occupation within it. Those "yes" firms willing to hire a high school student under this condition commented as follows: "We would work with a really interested boy with some secretarial skills to handle the real estate and insurance office." (1) "We would be willing to work with an interested student in order to meet our particular needs." (4) "We would hire a student depending on our labor needs on Saturdays and after school." (1) "We are at present working with an Ontario student and like him very well." (1) "We would hire a student on a seasonal need basis." (1) "I would perhaps hire a class of boys to set up some equipment." (1) "We would be interested in an enthused and interested person." (1) "We could use several students in the summer." (3) "I would be interested in a boy over 18 when I need help." (1) "We would be able to use students seasonally on a full-time basis." (1)

The replies of the "no" firms were in the same context as those stated by the "yes" firms.

Of the 23 "yes" firms interviewed, 15 replied that they would be willing to hire a student on a cooperative work training basis. Both groups were interested in hiring really interested students showing evidence of enthusiasm for the occupation or business.

Some comments from the eight "yes" firms interviewed who
said they would not hire a high school student to work part-time under the supervision of a high school teacher follow: "We have no need for employees who do not work all day." "The students could not work long enough to do us any good (per day)." "Our business is such that it must be kept confidential and we wouldn't want to depend on a high school age person." "We do not have enough business." "It would cost us too much to work with this kind of a program even though it is needed."

**Employment Opportunities**

The 23 "yes" firms interviewed employed, at an entry occupation level, 49 full-time and 26 part-time employees, and have an annual average turnover of 13 employees. These firms anticipate 24 additional employment openings in the next five years. Some of the employers would not commit themselves regarding the number of employees needed in the future. No employer, however, indicated that he expected his business to need fewer employees.

Several businesses in Vale expect the volume of business and number of employees to remain constant during the next five years. Both groups interviewed in Vale agreed on this point.

Farm equipment, fertilizer and chemical, service station, and food store firms were most optimistic about future growth. As
a group they generally expected a ten percent growth each year.

Of the 23 "yes" firms interviewed, only nine were of sufficient size as to provide an opportunity for an employee to move up to a managerial position. Seven of the nine firms selected employees for managerial positions from among the work force in the firm.

**Background Requirements**

The figures in Table 4 represent the number indicated out of 23 "yes" and 8 "No" firms interviewed.

<table>
<thead>
<tr>
<th>Experience</th>
<th>Essential &quot;Yes&quot; Firms</th>
<th>Essential &quot;No&quot; Firms</th>
<th>Desirable &quot;Yes&quot; Firms</th>
<th>Desirable &quot;No&quot; Firms</th>
<th>Unnecessary &quot;Yes&quot; Firms</th>
<th>Unnecessary &quot;No&quot; Firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work experience</td>
<td>2</td>
<td>1</td>
<td>17</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Farm work experience</td>
<td>13</td>
<td>-</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>High school agriculture</td>
<td>-</td>
<td>-</td>
<td>19</td>
<td>-</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>College training in agriculture</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>23</td>
<td>7</td>
</tr>
</tbody>
</table>

Thirteen of the 23 "yes" firms interviewed said that farm work experience was essential in the background requirements of an employee they hired. From this indication, information given hereafter will be considered in light of the agricultural farm work experience background.

Information supplied in Table 4 indicates that a high school
education is sufficient for beginning employment in most firms.

Age Requirements

Most employers prefer to hire people when they are between 25 and 39 years of age. Some work experience is desirable under most conditions. Employers indicated they would, however, be willing to hire people under 19 years of age.

Competencies Desired In Employees

Employers were in agreement concerning the general need for employees in their firms to be familiar with agriculture, usually in farm work experience. To determine competencies needed in four areas, employers were asked to indicate the competencies listed which would be essential in an employee. Table 5 shows the summarized results. These competencies are needed by employees in the context of an agricultural emphasis.

Each of the figures in Table 5 represent the number of "yes" or "no" firms indicating the particular competency was needed in an employee hired for the firm. The maximum number represented by "yes" firms is 23 and eight for the "no" firms.
Table 5. Competencies needed by employees

<table>
<thead>
<tr>
<th>&quot;No&quot; Firms</th>
<th>&quot;Yes&quot; Firms</th>
<th>Basic Skill Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Receiving, marking, and shipping</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>Inventoring, stock control, and warehousing</td>
</tr>
<tr>
<td>4</td>
<td>10</td>
<td>Using business mathematics (change making, discounts)</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>Accounting</td>
</tr>
<tr>
<td>-</td>
<td>5</td>
<td>Buying and merchandising</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Understanding taxes (withholding, sales, property)</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>Using legal relationships (contracts)</td>
</tr>
<tr>
<td>6</td>
<td>18</td>
<td>Being accurate in work</td>
</tr>
<tr>
<td>*</td>
<td></td>
<td>Other, please specify</td>
</tr>
</tbody>
</table>

Social Competencies

| 8          | 23         | Being honest (employer, money, time, employees) |
| 8          | 21         | Showing initiative (accept and carry out duties) |
| 6          | 21         | Following instructions |
| 3          | 14         | Working safely with products and fellow workers |
| 8          | 20         | Personal hygiene |
| 4          | 18         | Employee-supervisor relations |
| 8          | 21         | Employee-employee relations |
| 7          | 19         | Employee-customer relations |
| -          | -          | Inducting new employees |
| 2          | 1          | Training others |
| 3          | 1          | Appraising the work of others |
| 5          | 19         | Winning friends for the firm |
| 1          | 6          | Using the telephone properly |
| 1          | 3          | Proceeding through the chain of command |
| *          |            | Other, please specify |

Technological Competencies

| 4          | 13         | Handling products safely |
| 1          | 16         | Operating tractor, truck, and/or car safely |
| 2          | 15         | Demonstrating and explaining how to use products or services that will save the customer money |
| 2          | 12         | Possessing knowledge of competitors products |
| *          |            | Other, please specify |
Table 5. (Continued)

<table>
<thead>
<tr>
<th>&quot;No&quot; Firms</th>
<th>&quot;Yes&quot; Firms</th>
<th>Marketing Competencies</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>15</td>
<td>Finding a customer's need and desires</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
<td>Showing a product with aim at selling it</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>Communicating with customer on using a product.</td>
</tr>
<tr>
<td>5</td>
<td>17</td>
<td>Showing a genuine desire in the customer's need</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>Advertising to sell a product</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>Meeting people well</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>Arranging a product display</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
<td>Overcoming sales obstacles</td>
</tr>
<tr>
<td>*</td>
<td>Other, please specify</td>
<td></td>
</tr>
</tbody>
</table>

*Other competencies follow this chart.

"Other" competencies desired by employers of "yes" firms included: Enthusiasm (3), Must not "drink" (2), Mechanical skills and experience (3), Surveying competencies (1), Possessing ability to analyze character for loan purposes and exhibit a good sense of value (3), Showing a willingness to learn (1).

Most emphasis is placed on the competencies involving human relations and salesmanship. Competencies which involve workmanship are also important to the employer.
CHAPTER IV

SUMMARY

The greatest change in agricultural education is the concept that agriculture is more than farming. Agriculture includes all aspects of producing, servicing, processing, and distributing food and fiber. The Vocational Education Act of 1963 supports this statement by providing for any occupation involving knowledge and skills in agricultural subjects.

Nationally agriculture is faced with providing sufficient numbers of adequately trained workers for agricultural industry. Training for jobs in off-farm agriculture is important for the people in the Vale area because many farms once considered economically efficient units are no longer able to support a farm family, making it necessary for one or more members of the family to work off the farm.

This study is limited to finding general competencies that are needed in all areas of off-farm agricultural occupations. To accomplish this a questionnaire was mailed to 94 firms in the Vale area and 31 of the responding firms were selected by a random sampling method and followed up with a personal interview of the owner or manager. The study revealed that 61.12 percent of all employees represented
by 91 firms needed an agricultural background. Furthermore, 74.71 percent of all employees represented by 67 "yes" firms (firms indicating that they hired people who needed a knowledge of agriculture) needed an agricultural background.

This study revealed that the 23 employers interviewed conservatively estimated 24 additional job openings in the next five years due to growth. Farm equipment, fertilizer and chemical, service station, and food store firms expect a ten percent annual growth. The range on all interviews was from zero to 1000 percent growth in five years.

The two most frequently marked functions were retailing and servicing with 47.76 percent and 41.79 percent respectively. None of the "yes" firms surveyed indicated that they provided a transportation function.

Thirteen of the twenty-three firms hiring agriculturally oriented employees indicated that farm experience was essential for employment. Also, twenty of the twenty-three firms hired employees by personal interview.

Conclusions

1. Most off-farm occupations exist within farm machinery, fertilizer and chemical, service station, and food.
store firms.

2. Agricultural education must strengthen the off-farm agricultural offering to supply the demand for employees.

3. High school and community college programs should be articulated to provide students with more technical training.

4. Employers were most concerned that employees possess competencies in the areas involving other people directly or indirectly as a result of an immediate act.

5. Most of the firms in the Vale area, responding in the affirmative regarding the hiring of a high school student, would be able to use the student during seasonal rush periods or on a need basis.

**Recommendations**

On the basis of data and findings of this study, the following recommendations are presented:

1. Production agriculture should continue to be the core of the program to provide competencies needed in off-farm occupations.

2. Close cooperation should be established with farm machinery and fertilizer and chemical firms as they
provide the largest number of employment opportunities.

3. Instruction in off-farm agricultural occupations should include training to help develop the following competencies indicated essential by over 50 percent of the firms interviewed:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Example in Off-Farm Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working safely.</td>
<td>Following correct procedure when operating feed delivery truck or arc welding equipment.</td>
</tr>
<tr>
<td>Demonstrating and explaining the advantages of using a particular product or service.</td>
<td>Planning, preparing, delivering, and financing a balanced concentrate mixture for steers being finished for market.</td>
</tr>
<tr>
<td>Finding a customer's needs and desires.</td>
<td>Asking questions and making suggestions for selecting and using insecticides, herbicides, fertilizers or veterinary supplies.</td>
</tr>
<tr>
<td>Communicating with a customer on product uses.</td>
<td>Assisting a customer in the selection of landscaping materials.</td>
</tr>
<tr>
<td>Showing a product with aim at selling it.</td>
<td>Emphasizing the advantages of construction and efficiency in operation of a new tractor as compared to the model the customer owns.</td>
</tr>
<tr>
<td>Possessing knowledge of competitors products and services.</td>
<td>Studying the features of grain combines in order to compare them intelligently with those sold by the firm.</td>
</tr>
<tr>
<td>Attending to personal hygiene.</td>
<td>Striving always to be neat and clean is important for all agricultural employees.</td>
</tr>
<tr>
<td>Functioning well with supervisor, employees, and customers.</td>
<td>Assisting a fellow feed store employee wait on customers during a rush period even though it is not an assigned duty and may mean working overtime.</td>
</tr>
</tbody>
</table>
Competency | Example in Off-Farm Agriculture
--- | ---
Winning friends for the firm. | Taking time to look at a customer's new dairy facilities without trying to sell a product.
Showing a genuine desire in the customer's needs. | Working with a farmer to find a chemical to control wild oats.
Meeting people well. | Making farmers feel important by being able to discuss their interests intelligently.
Doing work accurately. | Repairing a baler engine to specifications according to a repair manual and attending special classes for professional improvement.
Exhibiting honesty. | Completing livestock registration papers according to breed association regulations.
Showing initiative. | Reading informational literature about fertilizer products during slack hours.
Following instructions. | Assembling and calibrating beet planters according to written instructions supplied by the manufacturer.

4. **Further study should be conducted to set up a cooperative work experience program not limited to a seasonal work basis.**

5. **Outside assistance should be considered to offset the firm's cost in providing learning situations for students.**
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APPENDICES
## APPENDIX I

**Firms in the Vale Area Who Returned the Mailed Questionnaire**

(see Appendix II for key to this listing)

<table>
<thead>
<tr>
<th>A</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albertsons Food Center</td>
<td>Vale</td>
<td>4</td>
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<td>Aldred Electric Shop</td>
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<td>Allwest Breeder's Assn.</td>
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<td>6</td>
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<td>Nyssa</td>
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<td>Baker PCA</td>
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<td>6</td>
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<tr>
<td>Baker's Hardware Co.</td>
<td>Vale</td>
<td>3</td>
<td>1</td>
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<td>1</td>
</tr>
<tr>
<td>Bauman Farm Equipment</td>
<td>Nyssa</td>
<td>4</td>
<td>1</td>
<td>12</td>
<td>1</td>
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<td>Becker's Market</td>
<td>Vale</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
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<tr>
<td>Buckles Standard Delivery</td>
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<td>Bullock Auto Parts</td>
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<td>Center Dress Shop</td>
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<td>1,3,4</td>
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<td>Farm Bureau</td>
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<td>Farm Supply and Repairs</td>
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<td>Houston, A.C.Lumber Co.</td>
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<td>A</td>
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**Appendix I. (Continued)**

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</table>
Dear Sir:

I am conducting a study of some of the business firms in Malheur County. The purpose of this study is to secure occupational information which will allow me to revise vocational education classes at Vale Union High School. Your firm can supply valuable information, which can be used in counseling students about the world of work. You can contribute by completing this form and returning it in the enclosed envelope.

Thank you,

Norman G. Keesler

APPENDIX II

Mailed Questionnaire

A. Name of Firm ________________________________

B. Name of Person Reporting ________________________________

C. Position of Person Reporting

( ) 1. Owner
( ) 2. Owner-manager
( ) 3. Co-Owner
( ) 4. Manager hired
( ) 5. Personnel director
( ) 6. Office manager
( ) 7. Supervisor
( ) 8. Sales manager
( ) 9. Foreman
( ) 10. Other ________________

D. Main Function of Firm

( ) 1. Retailing
( ) 2. Wholesaling
( ) 3. Purchasing
( ) 4. Processing
( ) 5. Manufacturing
( ) 6. Service
( ) 7. Warehouse
( ) 8. Transportation
( ) 9. Construction
( ) 10. Other ________________

E. ____________________________________________
   Total number of people working for this firm.

F. ( ) 1. Yes Is a knowledge of agriculture beneficial in the
   ( ) 2. No performance of any of the jobs within this firm?

G. ____________________________________________
   Number of employees that need an agricultural background or are agriculturally oriented.
APPENDIX III

Interview Checklist for Off-Farm Agricultural Occupational Survey

Firm ____________________________

A.

<table>
<thead>
<tr>
<th>Full time</th>
<th>Ag Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
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</tr>
<tr>
<td>Female</td>
<td>Female</td>
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B.

<table>
<thead>
<tr>
<th>Full time</th>
<th>Ag Oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
<td>Female</td>
</tr>
</tbody>
</table>

C. Source most frequently used in securing new agriculturally oriented employees:

( ) 1. State employment service
( ) 2. Advertisements
( ) 3. Personal interview
( ) 4. Written application
( ) 5. Friend's recommendations
( ) 6. Present employee's recommendations
( ) 7. College placement bureaus
( ) 8. Public high schools
( ) 9. Persons dropping in, seeking jobs
( ) 10. Other _______________________

D. Training opportunities and/or facilities provided for agriculturally oriented employees:

( ) 1. None
( ) 2. Formal on-the-job training
( ) 3. Informal on-the-job training
( ) 4. Evening classes
( ) 5. Part-time day classes
( ) 6. Specialized course away from firm
( ) 7. Correspondence courses
( ) 8. Other _______________________

E. What phase of this firm do you anticipate will develop most in the future?

______________________________

F. ( ) 1. Yes Does this firm anticipate, in the near future, a need for persons with an agricultural background? How many? ____________

( ) 2. No

Under what conditions would this firm be willing to hire a high school student to work after school, on Saturdays and/or during vacation periods, who is under the supervision of a school instructor, in order that he might learn more about this type of firm, or occupations within this firm?
Comments

G. At what job title do most employees enter your firm? _____

H. From what source do you select individuals for managerial positions? _____
Firm

A. Job Title

B. Total___Male___Female___No. employed permanently with this job title.

C. Total___Male___Female___No. employed part-time with this job title
   ( ) Year around
   ( ) Seasonal
   ( ) No. of months

D. No. of different persons employed with this job title last year?
   Anticipated number to be employed with this job title next year?
   Anticipated additional openings in next 5 years due to growth?
   Average annual turnover?

E. What are the educational requirements for this job?
   ( ) 0. None
   ( ) 1. 8th grade completion
   ( ) 2. High school completion
   ( ) 3. Technical schooling
   ( ) 4. Some college
   ( ) 5. College completion

F. What are the age requirements for new employees?
   Minimum Check with: 1. 19 and under
   Maximum
   Preferred

G. To what extent would the following backgrounds be helpful in securing this job?
   Previous work experience Check with: 1. Essential
   Farm experience or background 2. Desirable
   High school training in agriculture 3. Unnecessary
   College training in agriculture
   Other

H. Is any special training provided for a new employee with this job title?
   ( ) 0. No Kindly explain
   ( ) 1. Yes
### Checklist of Competencies Employers Desire in Employees

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<tr>
<th>&quot;No&quot;</th>
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<td>Receiving, marking, and shipping</td>
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<td></td>
<td></td>
<td>Inventoring, stock control, and warehousing</td>
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<tr>
<td></td>
<td></td>
<td>Using business mathematics (change making, discounts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accounting</td>
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<tr>
<td></td>
<td></td>
<td>Buying and merchandising</td>
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<td></td>
<td></td>
<td>Understanding taxes (withholding, sales, property)</td>
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<tr>
<td></td>
<td></td>
<td>Using legal relationships (contracts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Being accurate in work</td>
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<td></td>
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<td>Other, please specify</td>
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</tbody>
</table>

### Social Competencies

- Being honest (employer, money, time, employees)
- Showing initiative (accept and carry out duties)
- Following instructions
- Working safely with products and fellow workers
- Personal hygiene
- Employee-supervisor relations
- Employee-employee relations
- Employee-customer relations
- Inducting new employees
- Training others
- Appraising the work of others
- Winning friends for the firm
- Using the telephone properly
- Proceeding through the chain of command
- Other, please specify

### Technological Competencies

- Handling products safely
- Operating tractor, truck, and/or car safely
- Demonstrating and explaining how to use products or services that will save the customer money
- Possessing knowledge of competitors products
- Other, please specify
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<thead>
<tr>
<th>&quot;No&quot;</th>
<th>&quot;Yes&quot;</th>
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<tr>
<td></td>
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<td>Finding a customer's needs and desires</td>
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<tr>
<td></td>
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<td>Showing a product with aim at selling it</td>
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<tr>
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<td>Communicating with customer on using the product</td>
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<tr>
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<td>Showing a genuine desire in the customer's need</td>
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<td>Advertising to sell a product</td>
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<td>Meeting people well</td>
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<tr>
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<td>Arranging a product display</td>
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<td>Overcoming sales obstacles</td>
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