

Lesson F1–2

Determining the Kinds of SAE

Unit F. Supervised Experience in Agriculture/Horticulture

Problem Area I. Determining Purposes and Procedures of SAE

Lesson 2. Determining the Kinds of SAE

New Mexico Content Standard:

Pathway Strand: Academic Foundations

Standard: I: Achieve specific academic knowledge and skills required to pursue the full range of career and post-secondary education opportunities within AFNR.

Benchmark: I-B: Be proficient in using a variety of resources for both research and development.

Performance Standard: 1. Conduct informational searches for types of resources that are appropriate for locating scholarly and academic information. 2. Analyze materials to determine their value for research and development areas.

Student Learning Objectives. Instruction in this lesson should result in students achieving the following objectives:

1. Explain the difference between entrepreneurship and placement SAEs.
2. Describe research and experimentation SAEs and exploratory SAEs.
3. Explain the characteristics of a good SAE program and student responsibilities.

List of Resources. The following resources may be useful in teaching this lesson:

Recommended Resources. One of the following resources should be selected to accompany the lesson:

Morgan, Elizabeth M., et al. *AgriScience Explorations*, Second Edition. Danville, Illinois: Interstate Publishers, Inc., 2000. (Textbook, Chapter 21)

National FFA Organization. *FFA Student Handbook*. Alexandria, Virginia: National FFA Organization, 1995.

National FFA Organization. *Official Manual*. Indianapolis, Indiana: National FFA Center, 1998.

Other Resources. The following resources will be useful to students and teachers:

Cooper, Elmer L. and Bret Iverson. *Agriscience Fundamentals and Applications*. Albany, New York: Delmar Publishers, Inc., 1997. (Textbook, Unit 5)

Fraze, Steven D., Sharon Hunter, Marshall Stewart, Brenda Scheil, and Robert Terry, Jr. *Developing Leadership and Personal Skills*. Danville, Illinois: Interstate Publishers, Inc., 1997. (Textbook, Appendix A)

List of Equipment, Tools, Supplies, and Facilities

Writing surface

Overhead projector

Transparencies from attached masters

Terms. The following terms are presented in this lesson (shown in bold italics):

Agribusiness enterprise

Exploratory SAE

Entrepreneurship SAE

Mentor

Placement SAE

Production enterprise

Research and experimentation SAE

Supervised agriculture experience (SAE) programs

Interest Approach. Use an interest approach that will prepare the student for the lesson. Teachers often develop approaches for their unique class and student situation. Brainstorm with the students in the class and list as many SAE ideas as possible. Use proficiency award plaques in your classroom to identify past recipients. See if any students know any of the past winners.

Summary of Content and Teaching Strategies

Objective I: Explain the difference between entrepreneurship and placement SAEs.

Anticipated Problem: What is the difference between entrepreneurship and placement SAE programs?

- I. Many enterprises for SAE's can be either an entrepreneurship or placement program.
- A. **Entrepreneurship SAE** refers to student activities conducted by students as owners or managers for profit. They are also referred to as ownership SAEs.
 1. Students own the materials and inputs.
 2. Usually, students begin on a small scale and expand each year.
 3. A **production enterprise** is when students own plants or animals for their SAE program.
 4. An **agribusiness enterprise** is one where the student buys and sells an agricultural commodity for profit, rather than raising or growing the commodity.
 5. Some examples of entrepreneurship SAEs program include:
 - a. Setting up a lawn care service.
 - b. Raising and selling bedding plants.
 - c. Raising sheep, beef, and swine, etc.
 - d. Operating a horseshoeing business.
 - e. Raising corn or soybeans.
 - f. Growing and selling fish.
 - g. Running a roadside fruit and vegetable stand.
- B. **Placement SAE** programs are those where the student is placed with an employer in a production unit such as a farm, greenhouse, nursery, etc. to produce commodities for wages.
 1. In this program the student works for another individual.
 2. The students may or may not receive pay.
 3. The students do not own the products used or produced. They belong to the employer.
 4. Students could also be placed in an agricultural agency such as Cooperative Extension Service (CES), Soil Conservation Service (SCS), Agricultural Stabilization and Conservation Service (ASCS), Forestry Service (FS), Wildlife and Environmental Services, and school laboratories.
 5. Some examples of placement SAE's include students working in the following settings:
 1. A flower shop.
 2. A farm supply.
 3. A veterinary clinic.

4. A biotechnology laboratory.
5. A dairy farm.
6. A pet shop.

Use a variety of teaching techniques to help students master this objective. Text materials will help student learning. Chapter 21 in *Agriscience Explorations* and Unit 5 in *Agriscience Fundamental and Applications* are recommended. Use TM: F1–2A to further explain examples of entrepreneurship SAE programs. Use TM: F1–2B to help students understand types of placement SAE programs. Have students identify any past proficiency award winners by reviewing the plaques in the classroom. Discuss the relationship between SAE programs and other components of the agricultural course.

Objective 2: Describe research and experimentation SAEs and exploratory SAEs.

Anticipated Problem: What is the difference between exploratory SAEs and research and experimentation SAEs?

- II. Students can use SAE programs to research and explore a variety of subjects about agriculture itself, and careers in agriculture.
 - A. An **exploratory SAE** program allows students to explore subjects or careers in agriculture through specific activities.
 1. Many beginning students use this type of SAE to learn what they want to study in more depth.
 2. The exploratory SAE will prepare students to make better future career choices or educational decisions.
 3. The student plans this type of SAE under the direction of the teacher, parent, mentor, or others. A **mentor** is one who has skills you would like to learn.
 4. Some examples of an exploratory SAE include:
 - a. Observing the work of a veterinarian.
 - b. Observing an agricultural scientist working in a lab.
 - c. Helping tend to plants in the greenhouse.
 - d. Caring for the aquaculture lab at the school.
 - e. Helping with crop research plots.
 - B. A **research and experimentation SAE** is a science based experience using laboratory procedures to study a problem.
 1. Research may be done at school, home, on the job, or wherever suitable facilities are available.
 2. This type of SAE is usually not considered a profit making activity.
 3. Generally, the work involves solving a problem or investigating a new product.
 4. The National FFA organization provides an award to the outstanding agriscience student and teacher based on this type of SAE.
 5. Some examples may include:

- a. Working with an agronomist in breeding a new crop variety.
- b. Testing various media used in a lab.
- c. Collecting and testing water samples.
- d. Testing rates of fertilizer applications.

Many techniques can be used to help students understand the difference between exploratory and research/experimentation SAE programs. Students need text materials to help master this objective. Unit 5 in *Agriscience Fundamentals and Applications* and chapter 21 in *Agriscience Explorations* are recommended. Use TM:F1–2C to help students understand activities that could be used as exploratory SAE programs. Use TM:F1–2D to assist student learning of research/experimentation SAE programs. Discuss with students the relationship between SAE programs and other components of agriculture courses.

Objective 3: Explain the characteristics of a good SAE program and student responsibilities.

Anticipated Problem: What are the characteristics of a good SAE program and what is necessary for accomplishment?

- II. **Supervised agricultural experience (SAE) programs** are an application of class instruction in agriculture.
 - A. Characteristics of a good SAE program includes:
 1. Basing the program on student interests.
 2. Having an agricultural focus.
 3. Providing for development of a large number of abilities.
 4. Being large enough in size to be challenging.
 5. Being diversified.
 6. Providing an opportunity to make management decisions.
 7. Having potential for profit.
 8. Requiring student involvement year round.
 9. Providing opportunities for expansion.
 10. Leading to future business ownership or employment.
 - B. The student's responsibilities in conducting SAE programs include:
 1. Researching the possibilities.
 2. Keeping all parties (teacher, parents, and employers) informed.
 3. Setting goals.
 4. Keeping records of financial concerns and experiences gained.
 5. Seeking out advice/assistance from teacher, parents, mentor, etc.
 6. Meeting financial obligations.
 7. Carrying out SAE program plans.
 8. Self-evaluating progress.
 9. Developing an SAE program that will be valuable to the student.

10. Giving it 100 percent.

Use a wide range of teaching techniques to help students master this objective. Text materials will enhance student learning. Chapter 21 in Agriscience Explorations and Unit 5 in Agriscience Fundamentals and Applications are recommended. Use TM:F1–2E to help students understand the characteristics of a good SAE program. Use TM:F1–2F to explain the structural overview of a SAE program. Use TM:F1–2G to help students understand their responsibilities in conducting a SAE program. Have students interview recent graduates or older current students to find out how they developed and expanded their SAE programs. Show a videotape or a slide presentation of current SAE programs. Invite owners, operators, and workers in various agricultural occupations in the community to serve as resource persons. Invite them to visit school to discuss the value of SAE programs in agriculture.

Review/Summary. Use the objectives for the lesson as guides in reviewing and summarizing the content. Have the students explain the content associated with each objective. Use questions at the end of the chapter of the text materials as a form of review

Application. Students can apply the content of this lesson in their agricultural education and FFA activities.

Evaluation. Assessing the extent to which the students have achieved the objectives can be based on student participation in reviewing and summarizing the lessons as well as attentiveness throughout. A written test can also be given. A sample written test is attached.

Answers to Sample Test:

Part One: Matching

1 = e, 2 = c, 3 = d, 4 = f, 5 = a, 6 = b

Part Two: Completion

1 = employer

2 = mentor

3 = exploratory

4 = Supervised Agricultural Experience (SAE)

Part Three: Short Answer

1. Refer to TM: F1–2E for the possible answers.

Test

Lesson F1–2: Determining the Kinds of SAE

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

- | | |
|--------------------------|---------------------------------|
| a. Production enterprise | d. Agribusiness enterprise |
| b. Entrepreneurship SAE | e. Placement SAE |
| c. Placement SAE | f. Research/experimentation SAE |

- _____ 1. When a student works for an employer in a production unit.
_____ 2. Working in a greenhouse or nursery for the owner to gain experience.
_____ 3. An SAE where the student buys and sells an agricultural commodity for a profit.
_____ 4. A science based experience using science laboratory procedures to study a problem.
_____ 5. An SAE program where students own plants or animals.
_____ 6. Student activities conducted as the owner or manager for profit.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

1. In a placement SAE program the products produced are owned by the _____.
2. A _____ is one who has skills you would like to learn.
3. An _____ SAE offers the student the opportunity to investigate subjects or careers in agriculture through specific activities.
4. _____ is an application of class instruction in agriculture.

Part Three: Short Answer

Instructions. Provide information to answer the following questions.

1. List five characteristics of a good SAE program.

Examples of Entrepreneurship SAE Programs

Production Enterprises

Crop

Corn Production
Soybean Production
Small Grain Production
Greenhouse Production
Nursery Production
Forage Production
Fruit Production
Christmas Tree Farm

Livestock

Commercial Cow-Calf Production
Breeding Stock
Market Beef Production
Dairy Production
Feeder Pig Production
Market Swine Production
Sheep Production
Horse Production

Agribusiness Enterprises

Lawn Service
Custom Farm Work
Animal Trapping and Pelt Sales
Hunting Guide Service
Tree Service
Artificial Insemination Service
Animal Care and Boarding
Fishing and Crabbing Sales
Farm and Garden Supply Service

Examples of Placement SAE Programs

- **Veterinary Clinic**
- **Kennels**
- **Feed or Seed Stores**
- **Pet shops**
- **Nursery Outlets**
- **Florists**
- **Garden Centers**
- **Fish hatcheries**
- **Retail fruit and vegetable stands**
- **Biotechnology laboratories**
- **Bee farms**
- **Campground or nature areas**
- **Cooperative Extension Service**
- **Parts department of a equipment dealership**
- **Ranch hand**

Examples of Exploratory SAE Programs

- **Investigations in small animal health**
- **Biotechnology**
- **Water rights**
- **Agriscience journalism**
- **Aquaculture**
- **Hydroponics**
- **Air pollution**
- **Tissue culture**
- **Agriscience engineering**

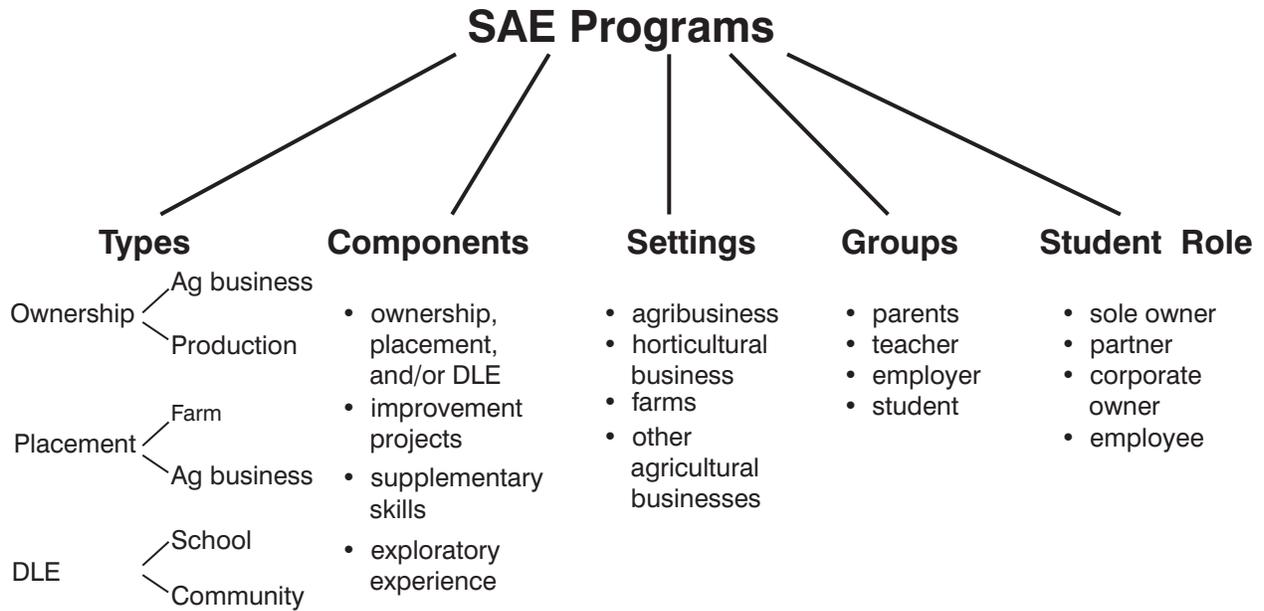
Examples of Research/Experimentation SAE Programs

- **Stream monitoring**
- **Weather watch**
- **Forest fire watch**
- **Crop scouting**
- **Insect and weed monitoring**
- **Crop reporting**
- **Lab media testing**
- **Fertilizer rate testing**
- **Developing new methods of propagating plants**
- **Developing new methods to keep food fresh**
- **Testing water samples**

Characteristics of a Good SAE Program

- 1. Based upon the interest of the student**
- 2. Agriculturally focused**
- 3. Provides for the development of a large number of abilities**
- 4. Sufficient in scope to be challenging**
- 5. Contains diversity**
- 6. Provides an opportunity to make management decisions**
- 7. Has the potential for profit**
- 8. Requires student's involvement most of the year**
- 9. Provides opportunities for expansion**
- 10. Leads to future business ownership or employment in agriculture**

Structural Overview



Student Responsibilities in Conducting SAE Programs

- 1. Consider the possibilities.**
- 2. Keep teacher, parents, and employers informed.**
- 3. Set goals for yourself.**
- 4. Keep records of financial concerns and the experiences gained.**
- 5. Seek advice/assistance from teacher.**
- 6. Meet financial obligations.**
- 7. Carry out SAE program plan.**
- 8. Self-evaluate progress.**
- 9. Develop an SAE program that will be valuable.**
- 10. Give it your best shot!**