

NOTES FROM THE AAAE POSTER SESSION CHAIR

Originally titled "exchange of ideas," the poster session is a forum for agricultural education professionals to share proven education methods from their individual programs. To be considered for consideration a poster must be a new idea or the creative modification of an existing idea, it must be of potential regional or national significance, and it must have been used before the time the idea was submitted for consideration.

In October of 1999, a call for poster proposals emailed to all subscribers to the Southern Region AAAE List-serve. A call was also mailed to the head of each Agricultural Education Program in the Southern Region.

Ten proposals were submitted for consideration. Each proposal was reviewed and rated by three peer educators in a blind review process. Proposals were judged on significance of the idea, creativity, technical content, practicality, educational value, and adoption potential. All ten proposals were selected for presentation for an overall acceptance rate of 100%. Posters will be judged on site with the top four posters qualifying for presentation at the 2000 National Agricultural Education Research Meeting in San Diego.

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BIOTECHNOLOGY AND AGRISCIENCE RESEARCH COURSE AND CURRICULUM DEVELOPMENT

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Introduction

Today's biotechnology is being used to develop agricultural products and to improve existing plant and animal species. Agricultural scientists, technicians and consumers need to understand agricultural biotechnology in order to conduct research and to make informed decisions. High school agricultural education programs can provide young people the information and training they need to pursue related careers or to become informed decision-makers.

Program Phases

In 1994, North Carolina agriculture education teachers indicated in a North Carolina Department of Public Instruction (NCDPI) survey that agricultural biotechnology should be taught in North Carolina high school agricultural education programs. In 1996, a committee of industry, business and education personnel was formed, under the leadership of North Carolina State University, to determine the competencies and curriculum that should be taught in a course titled Biotechnology and Agriscience Research. This committee referred to the "National Voluntary Occupational Skill Standards for Agricultural Biotechnology Technicians" to determine the skills needed for an entry-level employee in agricultural biotechnology.

During the 1998-1999 and the 1999-2000 school year, the Biotechnology and Agriscience Research course was piloted in eleven schools across North Carolina. A grant was received from the North Carolina Biotechnology Center to buy supplies for the pilot labs and teachers were also invited to participate in their equipment loan program. The pilots and project director accomplished the following objectives:

1. Taught basic biotechnology and current agricultural applications of biotechnology in North Carolina high schools.
2. Introduced approximately 50 teachers to the labs/curriculum in the summer of 1999.
3. Piloted the curriculum materials and lessons.
4. Collected data to assess student performance.
5. Steps taken to achieve the objectives:
6. Trained pilot teachers in workshops at NCSU.
7. Trained pilot teachers in workshops at Carolina Biological Supply Co., Inc.
8. Provided teachers with access to equipment and lab supplies to implement biotechnology lessons.
9. Worked with the DPI and pilot sites to complete the course blueprint.

10. Worked with consultants to develop matching curriculum materials.

As the North Carolina course was being developed, the pilot teachers and the curriculum committee realized the need for a comprehensive and up to date agricultural biotechnology curriculum. The National Agricultural Council was interested in supporting the development of such a curriculum. Smith and Strozier consulting firm was identified as having developed biotechnology curriculum and having assisted with various high school agricultural projects in North Carolina. Current agricultural applications of biotechnology were integrated with employee skills identified in the "National Voluntary Occupational Skill Standards for Agricultural Biotechnology Technicians" and the course competencies of the North Carolina Biotechnology and Agriscience Research course to create the framework for the "Biotechnology for Plants, Animals, and the Environment" curriculum.

The "Biotechnology for Plants, Animals, and the Environment" curriculum was piloted in North Carolina and nation wide by the National Agricultural Education Council during the spring of 1999. This curriculum is complete and will be available for purchase by the National Agricultural Education Council in the spring of 2000

Results To Date

The goal of this project was to expand biotechnology education among Agricultural Education students in North Carolina. During the 1998-1999 school year, 98 students were enrolled in the Biotechnology and Agriscience Research course at pilot schools. An additional 295 students took part in one or more of the biotechnology labs integrated into an existing agriculture education course. In the summer of 1999, pilot teachers conducted a teacher workshop at the annual N.C. Agricultural Education Summer Conference to introduce over 50 teachers to the course and new curriculum. In the fall of 1999, the pilot teachers presented an introductory NATA workshop to showcase the curriculum to over 100 teachers nationwide.

Implications

In this project, many partners of education have come together to deliver biotechnology education to agriculture education students. The purpose of agriculture education is to educate and train future leaders and employees of the agriculture industry. The success of these students will depend on their knowledge of current technology including biotechnology. In turn, the biotechnology industry will depend on the agriculture industry to understand and utilize biotechnology products and processes. Biotechnology education should and is an integral part of agriculture education.

Future Plans

In the spring of 2000, national train the trainer workshops will be conducted by the National Agricultural Education Council to distribute the curriculum nationwide. The North Carolina pilots will continue to serve as model/pilot programs. The projector director will research the barriers of adoption of the course and curriculum in North Carolina. North Carolina State University will create an item bank of multiple choice objectives for post assessment/accountability requirements.

TEAM WORK

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Introduction

In any career, you will spend an enormous amount of time working with people. This involves experience in organizing, managing and coordinating groups, projects, and events. Teamwork, leadership and problem solving skills have been identified as important interpersonal skills being sought in potential employees. In research by Bruening, Cordero, and Scanlon, (1996), one employer stated "...the one consistent thing I am looking for...is team work...the ability to work well with others and the ability to feel part of the team....". Jill Stephens, Director of Corporate Outreach with America Online stated "you absolutely have to be able to work in teams, rather than being purely self-oriented." (Techniques, 1997)

People can play various roles within group situations. These roles are team-centered and self-centered. Team-centered roles are concerned with helping the group work toward cooperation and accomplishment and are used to make the team more effective. These roles help build a harmonious group, and are involved in coordinating task accomplishment. Self-centered roles are concerned with personal goals and are often destructive in group situations. (Clifford & Robinson, 1974). Learning to be a team player takes practice.

How It Works

Teamwork is used as a group learning strategy in the Issues in Agriculture course. A main goal of the course is to help students gain the ability to use team approaches to problem solving and decision making in the context of agricultural issues. This goal is accomplished through small group activities such as simulation activities,