

“That's Owl Folks:” Assessing Agricultural Educators’ Perceptions of Agriscience Integration Using Demonstrations and Focus Groups

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Introduction/Need for Innovation

In 1999, a new department (BIAE) was created at Clemson University by combining the faculties from Biology Instruction and Agricultural Education. This structure facilitated a new model that allowed the integration of science and agriculture in South Carolina's secondary programs. In the first year of existence, faculty and staff of BIAE noted possible barriers in facilitating paradigms toward this objective. As a result of the perceived and real barriers facing adoption of agriscience, a review of literature was conducted to seek potential recommendations. Balschweid & Thompson (1999) concluded that a lack of funding and a lack of appropriate equipment had been the greatest barriers to agriscience integration. Teachers also responded that additional preparation time was needed for agriscience assimilation, causing a decrease in personal time.

Upon the recommendations of Balschweid & Thompson (1999), further inquiry via qualitative methods was chosen. In order to gather this information, an interactive agriscience demonstration was used to draw interest in the meeting. The primary objectives of this activity were:

1. To heighten teacher awareness of agriscience concepts;
2. Gather input from teachers for infusion of agriscience into the local curriculum;
3. Gather data for use in developing the state agriscience curriculum in South Carolina;
4. To identify barriers in agriscience integration into the curriculum;
5. To enhance internal partnerships between faculty in the department of Biology Instruction and Agricultural Education;
6. To enhance partnerships between faculty in BIAE and secondary agriculture teachers in South Carolina, and
7. Establish a baseline of knowledge for use by new BIAE agriscience faculty (position currently being advertised).

Procedures of the Study

The procedures used in this program were:

1. To identify schools/teachers for the demonstration (based on accessibility of diverse programs);
2. To develop a practical and meaningful agriscience demonstration that would allow for immediate implementation into agriculture programs;
3. To develop a set of focus group questions based on existing literature;

4. To secure professional focus group facilitators;
5. To analyze and summarize qualitative data collected at each focus group session, and
6. To develop recommendations based on the findings.

Demonstration Used

An analysis of owl pellets was used for an agriscience demonstration. Based on primary findings related to 1970s research, Barn Owls were thought to be in decline due to pesticide use (primarily rodenticides as theorized by Rachel Carson). One way Carson's theory could be validated was to analyze owl pellets. After a brief historical review of owl biology and research, the participants were divided into pairs and charged with the mission of analyzing the contents. The owl pellet is a byproduct of the digestive processes of the owl. Barn owls ingest their prey whole. In the digestive tract, the food is broken up, and any indigestible pieces are coalesced. Thus, the bones and fur/feathers of the prey are brought together to form a pellet. This mass of material is then regurgitated.

Results to Date

Based on discussion between science and agriculture teachers, administrators, and students in the focus groups, the following comments were gathered:

- ☞☞Need summer workshops and graduate courses/re-certification in agriscience concepts;
- ☞☞The agriscience curriculum must contain rigor to attract higher-level students;
- ☞☞Lack of facility and equipment resources may be a barrier in the adoption of agriscience;
- ☞☞Teachers fear elimination of the agriculture program and reassignment as science teachers; and
- ☞☞Administrator support among high school principals is crucial.

Recommendations

These findings and other comments encouraged BIAE to:

- ☞☞Conduct additional meetings in other regions of South Carolina;
- ☞☞Seek funding for the purpose of establishing pilot sites;
- ☞☞Conduct a week-long summer workshop to provide teachers with tools necessary for agriscience instruction, and
- ☞☞Routinely meet with agriculture teachers on an individual basis to address their concerns about agriscience integration.

Costs

In-kind service of staff in BIAE was provided for the implementation of the program. Actual costs of each session were less than \$600.00, which included payment for focus group personnel travel and honoraria, meals for participants, and Barn Owl pellets (\$1.25/pellet).

References

Balschweid, M. & Thompson, G. (1999). Integrating science in agricultural education: Attitudes of Indiana agricultural science and business teachers. Proceedings of the National Agricultural Education Research Conference, 26, 183-191.