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Standards:

A National Perspective

Standards: Why Have Them?

By Jamie Cano

The matter of setting standards for Agricultural Education is certainly quite visible these days, but much of what we hear about it is not very enlightening. The talk is frequently filled with ideological heat, rather than with critical light, and the tone of the discussion is more often nostalgic than realistic. In addition, the pitch in favor of standards is currently so strong that it may well leave a number of listeners wondering why such an obviously needed and beneficial reform wasn't undertaken a long time ago. But the fact is that the effort to establish agricultural education standards, or any educational standards for that matter, has always been an uphill fight in this country.

In light of these circumstances, it is useful to examine why Americans, in general, have so vigorously resisted educational standards over the years. The history of such resistance suggests that there are three factors in particular that have made standards such a hard sell: a commitment to *local control of schools*, a commitment to *expansion of educational opportunity*, and a commitment to *form over substance in the way we think about educational accomplishments*. All three of these factors can be traced in large part to our preference for one particular purpose of education: we have increasingly held the view that education is a private good, which should serve the individual interests of educational consumers, rather than a public good, which should serve the broader public interest in producing competent citizens and productive workers.

However, good teachers have standards in mind when they set-up their lesson plans, where the idea of a "standard" represents a specific idea of what the teacher expects a student to recall, replicate, manipulate, understand, or demonstrate at some point down the road – and of how the teacher will know how close a student has come to meeting that standard. Standards, in other words, are conceptually nothing new – though we do seem to keep reinventing them. Standards have received a new emphasis over the last decade at the national, state, and local levels.

The term "standard" has multiple meanings. In their most useful form, standards are guidelines which set the standard for the quality of educational content, and high expectations for the educational outcomes to be drawn from that content. In addition, standards offer a foundation for building a strong curriculum, and a basis from which to evaluate the effectiveness of educational methods. Thus, standards provide a sound and empirical foundation for educational improvement.

Agricultural Education standards are criteria to judge quality: the quality of what students know and are able to do; the quality of the agricultural education programs that provide the opportunity for students to learn agriculture; the quality of agricultural education teaching; the quality of the system that supports agricultural education teachers and programs; and the quality of assessment practices and policies. Agricultural Education standards provide criteria to judge progress towards a national vision of learning and teaching agriculture in a system that promotes excellence.

A hallmark of American education is local control, where boards of education and teachers make decisions about what students will learn. National standards present criteria by which judgments can be made by state and local school personnel and communities, helping them to decide which curriculum, staff development activity, or assessment program is appropriate. National standards encourage policies that will bring coordination, consistency, and coherence to the improvement of agricultural education: they allow everyone to move in the same direction, with the assurance that the risks they take in the name of improving agricultural education will be supported by policies and practices throughout the system.

Some outstanding things happen in agricultural education classrooms today, even without national standards. But they happen because extraordinary teachers do what needs to be done despite conventional practice. Many generous teachers spend their own money on supplies, knowing that students learn best by investigation. These teachers ignore the vocabulary-dense textbooks and encourage student inquiry. They also make agricultural education courses relevant to students' lives, instead of simply being preparation for another school course.

In closing, we must throw away the misconception that adopting standards means limiting teacher choice. Standards need not dictate teaching methods, or eliminate the use of diverse texts and materials. Standards can, however, insure that certain fundamental and important curricular content is not left out or overlooked.

Jamie Cano is an Associate Professor at The Ohio State University and is Editor of The Agricultural Education Magazine.

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Editor
Dr. Jamie Cano, Associate Professor, Department of Human and Community Resource Development, The Ohio State University, 208 Agriculture Administration Building, 2120 Fyffe Road, Columbus, OH, 43210, Phone (614) 292-6321, FAX: (614) 292-7007.
E-mail: cano.1@osu.edu

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Standards and Agricultural Education: It's Not Just Plows, Cows, and Sows Anymore (but it MIGHT be physical science, the mammary system, and breeding for lean meat)

By Carol Conroy

At the time I was asked to be the theme editor for the Ag Ed Magazine issue on standards, I thought that writing this introductory section would be easy given my interest in and work with standards on many levels. However, what I found is that the topic is so broad and the term "standard" has so many meanings—think of the ceremonial flag bearer who is also known as the standard bearer—that writing this piece would not be an easy task at all. I decided to take the easy way out by conducting a search in the Merriam-Webster Online Dictionary to identify a definition for *standard* that relates most to what we do to frame my introduction:

Look at standards from the national perspective!

Standard: something established by authority, custom, or general consent as a model or example; something set up and established by authority as a rule for the measure of quantity, weight, extent, value, or quality. (http://www.m-w.com/)

We start off this issue with a look at standards from the national perspective by Dr. Larry Case, followed by a philosophical discussion from Vernon Cardwell that debates agriculture content stand-alone standards versus agriculture standards embedded in those developed for the core academic curriculum disciplines. Anissa Wilhelm provides a rationale for standards focused on better teaching and more accountability.

A group of Ohio State faculty and Bob Williams have written about standards in a preservice agricultural education program, and David Coffey and Robin Pieter contributed to the discussion on how to address state content standards as part of preservice methods classes. These articles are followed by a presentation of Indiana's process to develop secondary agriculture content standards written by Mark Balschweid, a discussion of Georgia's state focus on program improvement through standards written by James Woodard.

I think that you will agree with me that the articles presented in this issue have clearly touched on many topics related to the definition of *standard* that I provided above. I thank each of the authors for their valuable and insightful contributions as we continue to work to position agricultural education as a context to teach academic and life skills.

Standard: something set up by authority, custom, or general consent as a measure of quantity, weight, extent, value, or quality.

Carol Conroy is Senior Researcher at SRI International, Washington, DC

Educational Standards - A National Perspective

By Larry Case

Public education is a State responsibility. Public Education also has a considerable amount of Federal interest. The Federal interest stems from the Federal responsibility to assure and support a civil society, a functioning democracy and a strong economy. As such, Federal policy has a heavy influence on State educational programs.

Today, education is faced with many challenges as the public has become aware of an overall decline in student performance in the core academic areas such as math, science, and English. Basic academic skills are necessary for functioning in the workplace and in society in general. The lack of academic mastery coupled with the changing nature of work causes more concern when one understands that 85% of our workforce needs a postsecondary credential if workers are to achieve a sustainable wage. Additional concern comes from understanding that poor academic performance in secondary schools generally assures a poor postsecondary performance and thus the need for remediation. Not only is this time consuming and costly, poor student performance places into question the ability of the future workforce to withstand the rigors of international competition.

More concern is generated when one considers the evidence related to the US losing its educational edge when compared with other countries. Hans Meeder, Deputy Assistant Secretary, Office of Vocational and Adult Education, US Department of Education has stated that in the decade of the 90's China increased their postsecondary enrollment by 258%, India by 92% compared to the US at 19% (UNESCO, 2003). When comparing the percent of population stratified by age groups, the U.S. ranks 1st in the world in the percentage of 55 to 64 year olds who have completed secondary and postsecondary education. However, among 25 to 34 year olds, the U.S. ranks 8th in secondary completion, and 4th in postsecondary completion (Meeder Presentation, 2004).

If these indicators are correct, the US ability to compete in the world markets is diminished along with our domestic economy. Federal policy makers view this with great concern. It is safe to say that the Federal interest in education is here to stay and the domestic and international trends and comparisons will be the source of influence in determining the direction of Federal policy on education.

Educational Accountability

National, State and local leaders, as well the general population, believe that effective public education is essential in achieving a solid, internationally competitive economy. The public wants to be assured that schools are performing to World-class standards and that students will be successful in the future. As a result, local, state and national leaders are faced with developing policies and systems to support reliable measurement of student performance for the purpose of holding schools accountable for student achievement.

Developing student performance measurement systems is extremely dif-

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Theme: The Science of Teaching

Teachers of agriculture have often been accused of "teaching from the hip." Perhaps it may be that many do not really understand the "science" of teaching. This issue will look at the principles of teaching and learning, teacher behavior and student achievement, learning styles, objectives, and other related "science of teaching" components.

Theme Editor: R. Kirby Barrick
University of Illinois
101 Mumford Hall
1301 West Gregory Drive
Urbana, IL 61801
Email: kbarrick@uiuc.edu
Phone: (217) 333-3380

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ficult. However, Federal education policy is making an attempt to hold States and local schools accountable for student performance. Strong accountability provisions are included in the Carl D. Perkins Vocational and Technical Education Act of 1998 to assure that students in vocational and technical education attain academic and technical skills needed for success.

The most famous Federal authority is the No Child Left Behind (NCLB) Act. In general, NLCB requires State Agencies and LEA's to focus on academic achievement for all students and removing the achievement gap between groups of students. In order for States and local education agencies (LEA's) State education agencies to monitor progress, they must have academic standards and an assessment system to measure student progress.

Federal policy does not mandate specific educational standards. However, it does require States to have a standards/assessment system to monitor LEA's and generate reportable evidence of student achievement to the Federal level and to the general population. In addition, student achievement results are connected to future funding at both the local and State levels.

Implications for Agricultural Education Programs

It is fair to say that the school climate has changed as standards/accountability systems have evolved. The direct relationship to funding has "raised the stakes" for local schools. With the current focus on academic achievement coupled with tight State and local budgets, all elective programs, including agricultural education, could be in danger of being cut. Logically, more resources could go to academic preparation courses/programs at the expense of elective programs. This would be especially true if a school's performance level is low and is not showing improvement.

However, a stronger implication is that agricultural education must be part of the solution of helping students conquer higher levels of academic achievement. If the local agricultural education programs can show that they make significant contributions in academic achievement in the context of technical skill preparation, then the position is strengthened.

This is a key reason why the National Council for Agricultural Education (the Council) focused resources on the area of learning math, science and reading through agricultural education. Three monographs have been prepared and are available on the Council Web site http://www.agedhq.org/actionagenda.htm. These monographs provide a comprehensive review of science, math, and reading and agricultural educational research literature and cite promising teaching practices identified from the research. Agricultural education professionals can benefit by reading these monographs and using the information to help in adjusting their teaching practices. Additionally, the Council is supporting and encouraging more research, which should add to a stronger case for the use of agricultural educational programs in improving student test scores in math, science and reading.

> "leaders are faced with developing policies and systems to support a reliable measurement of student performance"

In order to provide additional guidance to strengthening programs, there is a need for National standards for agricultural education. Most States have standards for agricultural education and many can be found on the their respective websites. Again, the Council is taking on this task. The Council strategic plan (http://www.agedhq.org/strategicplan.htm) calls for the development of National quality indicators for secondary agricultural education programs by May 2005 and the development of National curriculum standards for secondary agricultural education that align with the career clusters pathways (completion date not specified).

Another resource is the Career Cluster information. Currently, the career cluster information is available on the web at http://www.careerclusters.org/clusters/anr.htm. This information was developed for educational planning and counseling. This information might be seen as a set of standards in that they have common knowledge and skill statements for the cluster foundation (including academic) and for each cluster pathway. Each knowledge and skill statement has identified performance elements with measurement criteria. Obviously, the next step is developing a standardized assessment approach with proper instruments and proce-

dures. This activity is under construction.

Conclusion

Federal interest in education along with standards and assessments are here to stay. Standards and assessment systems are evolving. Educators will get better at the assessments, instruction will improve and the educational system of our Nation will effective with time.

In the meantime, agricultural educators must partner with their local school faculty to do more to support the comprehension of academic skills. Agricultural education professionals must also do more within the agricultural education program to help students understand the need for and acquire academic skills together with technical skills. "High Schools that Work" data indicate when agricultural education teachers have high expectations of their students for academic achievement, their scores will increase. Further when all faculties in a school have high expectations, student scores increase even more.

In the future, agricultural education research will identify additional effective practices that will help agricultural educators improve instruction. National standards along with assessment strategies for agricultural education will also add to educational effectiveness. As a result, agricultural educators will continuously build on our legacy of student success.

The opinions expressed in this article are the opinions of the writer and do not represent official policy of the US Department of Education.

Larry Case is National Agricultural Eduction Advisor, Washington, DC

Content Standards for Agriculture or Agriculture Content Imbedded Within Core Standards

By Vernon B. Cardwell

The question is not whether we need or want content standards. The choice has been made for most of us by our respective state legislatures. Standards are a fact of life for most K-12 public educators. Content standards are a set of outcomes for students, relating to what students should know and be able to do, i.e., concepts and principles; skills, abilities and attitudes; and the thought processes needed for life long learners. Content standards do not prescribe a curriculum nor do they specify a context. But, content standards become the basis for 'Performance Standards' that determine how students will show they have met a standard and ultimately 'Proficiency Standards' that indicate how well students must perform. Standards are about achieving public accountability in an era of education reform.

Separate Standards for Agriculture. Are They Needed?

Yes, but! Yes, the nation needs competent and trained work force in agriculture prepared under the guidelines of Standards for Career Education. Accountability is required and in many school districts the workforce education programs are being asked to fully integrate with broader district or state standards. However, (and here is where the but! comes in), only a few of the courses in a typical agriculture curriculum meet the core academic standards that have been developed for the 13 discipline and 4 life skills areas outlined by Marzano and Kendall in1998. Examining Marzano and Kendal's work, it is easy to see that there is no category or disciplined identified as "agriculture" in the list of core academic subject areas for which most states have standards and/or benchmarks. This is not a surprise to agricultural educators.

I should note that traditional secondary agricultural education programs have excelled in the life skills areas identified by Marzana and Kendall. The FFA and SAE programs provide the context and content for students to master the concepts and outcomes called for by the benchmarks for life skills. This is something of which secondary agricultural educators can be very proud.

Is Agriculture a Science?

Benchmarks for Science Literacy (1993) considered agriculture a part of 'the designed world' where we have created technological options to prevent, eliminate, or lessen threats to life and the environment and to fulfill social needs. Agriculture is not a basic science in the definition of J. J. Thomson (1916), Nobel laureate in physics, "By research in pure science I mean research made without any idea of application to industrial matters but solely with the view of extending our knowledge of the Laws of Nature." Agriculture may not fit Thomson's definition of a 'basic science', but modern agriculture is an applied science using all of the principles, concepts and theories of physics, chemistry, biology and mathematics to answer specific questions for the benefit of humanity in a social and economic context.

Teachers and school districts are generally left the prerogative of providing the context for the subject matter delivered in the classroom. Courses and textbooks try to provide context, usually around discipline or subject matter areas. Context is the missing component for many learners in a rapid moving, fast changing society. What is relevant? What are the common threads that we all share? The themes of food, fiber, environment and natural resources, collectively agriculture, provide context and relevance while addressing the understanding of concepts called for in content standards.

Edwards, et.al. (2002) concluded "it is believed that *contextualized learning* holds promise for improving a student's ability to synthesize information from disparate sources, for furthering understanding of new and sometimes contradictory data, for assisting in making meaning, and, ultimately, for enhancing one's ability to think critically and transfer learning to future life experience."

Is Agriculture a Social Science?

Food, fiber, environment and natural resources (agricultural) literacy has been identified as "too important a topic to be taught only to— students considering careers in agriculture" (NRC-NAS, 1988). The Project Food, Land & People (FLP -2003) developed a 'Conceptual Framework' of seven **comprehensive** ideas reflecting responsible food, land and people decision making for both today and the future. All of the concepts embrace the elements found in most social science standards, and include such things as awareness and appreciation, historical perspectives, economics, images and

attitudes, decision-making, and thinking about the future. Examination of these ideas reflects the broad social science component of our food, fiber, environment and natural resource system that sustains human activity. Conroy, et. al. (1999) noted a similar interdisciplinary outcome in a classroom that uses aquariums to teach aquaculture production and maintenance principles, which integrates technology (physical science, systems design, engineering) and society (politics, law, economics, community, cost/benefits). Agriculture is indeed a human activity.

Why Content Standards For and About Agriculture?

Mayer and Mayer (1974) noted that the failure of secondary schools and liberal arts colleges to teach even rudimentary courses on or related to agriculture results in a sizeable proportion of the population, even among well-educated Americans, that are virtually ignorant of information requisite to their daily lifestyle, financial status and well-being. Norman Borlaug, Nobel Laureate, noted "...there is such a big job to educate the American people of the importance of agriculture. To have them know that they have the cheapest, best quality and greatest diversity of food of any nation in the history of the world. Americans...have no idea where their food comes from. That must be changed."

The largest sector of the world's population (42.0%) derives their livelihood directly from food, fiber, environment and natural resources (FAO, 2004). This is all the more reason to make food, fiber, environment and natural resources systems the context upon which we build our education efforts to create social and personal relevance of science and technology in the global community and create multidimensional literacy about food, fiber, environment and natural resources systems.

As we examine the desired learner outcomes outlined in reading, mathematics, science and social science content standards that parents and grandparents have said they desire through legislation enacted by their elected officials, now is the time for agricultural educators to make serious efforts to demonstrate their discipline's relevance to supporting learning across the curriculum for all learners, and to ally with science, mathematics, social science, literature/arts and reading educators such that we act in concert in discovering how agricultural education may best serve student learning in an interdisciplinary scheme and fulfill the goals of content standards. Literacy for and about agriculture will be the outcome if we integrate and work cooperatively to implement content standards for agriculture and new ways of imbedding agriculture into all of the other content standards.

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Vernon B. Cardwell is the Morse-Alumni Distinguished Teaching Professor, Agronomy & Plant Genetics, University of Minnesota

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Standards, Better Teaching, and More Accountability

By Anissa Wilhelm

In education, we hear the following four phrases all the time – student achievement, accountability, standards-based instruction, assessment. These words are having a stronger impact on education today than ever before. As educators, on all levels—middle school, high school and post-secondary – what do we actually do about or with these words? Why are they important to us? How and why do we incorporate these concepts? What is the best way to do so? And most importantly, how do we get from standards to quality teaching practice? In agricultural education, are content standards the way to go or should we determine which academic standards various agriculture curricula meet? These are all questions related to the focus of this issue of the Agricultural Education Magazine, and specifically standards in education.

Standards provide organized structure to curriculum offered in a content area.

Why standards? Standards-based education is not a new concept. Standards provide organized structure to curriculum offered in a content area. "A systematic approach to developing curriculum within a framework of standards will diminish the chances of having a preference-based, haphazard curriculum, promote greater professional accountability, and support and enhance student achievement" (Perna & Davis, 2000, p. 5). Core academic areas such as science and math operate using national and state standards. Agricultural education has been influenced by standards-based education as well. It can certainly be argued that our profession has been ahead of many other content areas in standard and curriculum development.

In agricultural education, several states have developed and implemented content standards in agriculture as well as identified how those agriculture content standards meet core academic standards. In my opinion it is important to establish content standards, at least at the state level. "Content standards are fixed goals for learning. They lay out what students should know and be able to do – the knowledge and skills essential to a discipline that students are expected to learn" (Zmuda & Tomaino, 2001, p.24-25). Standards provide the framework of curriculum establishing a level of performance and consistency of instruction. With a structured framework, it is noteworthy to add that standards must not be too structured or dictated so as to take away teacher creativity and initiative. According to Alfie Kohn, the danger of standards lies in creating overly prescriptive standards which take away from teacher effectiveness and harm student learning.

Agriculture standards must tie to academic standards.

Agriculture content standards must tie to academic standards. It provides credibility to agricultural education by showing how the context of agriculture is a viable tool to address academic measures. Looking at standards from different states, one notices the similarities and differences in format. Some are by course, some by content. Some identify core academic standards that are met through agriculture content standards, some do not. All get at one important aspect of standards, the use of a system to organize and identify information that all students should know and be able to do.

The use of the term "core" or "academic" content or standards implies an air of importance. The federal No Child Left Behind Act of 2001 has separated content areas into core and non-core categories. Agriculture is considered non-core, essentially making that content seem less important for students and less academic in

nature. However, educational research supports learning in context. It is that important aspect from which agricultural education students benefit. We can provide the how and the why to core or academic content. The argument might be made that agricultural education was developed and is still intended for students who need alternative, more hands-on, work-related courses. By tying agriculture content standards to core standards some might debate that we might be missing that purpose. Or it might also be argued that agricultural education is ever changing and is important for all students regardless of level of ability. The content base of agricultural education has expanded beyond production. Regardless, we expect all of our students to achieve at a certain level of standards, some which just happen to fit into some core content standards. It is the second argument by which I operate when it comes to agricultural education, standards-based instruction, and core content standards.

We need standards in agricultural education. Each state should have agricultural education standards. I am not advocating for or against national agriculture standards but feel that at a minimum, state level standards must be in place. While the continued argument from some may be that even on the state level there are major differences in topics taught from one end of a state to the other, I maintain that there is a certain amount of commonality in content. Standards are not to encompass every topic but to identify key content for students to know and be able to do regardless of location.

How do we go from the concept of standards to practice? Teachers are the key to success of standards. It is the teacher who must take the standards and turn them into learning opportunities. It is the teacher who provides learning opportunities which allow students to achieve acceptable performance of the standards. With that in mind, a great deal of teacher involvement is essential in the development, implementation, and review of standards. Standards should not be dictated down from above, whether that be university agricultural education programs or from state offices. It is critical that teachers are involved in the development process of standards. They after all are the ones who then will provide learning opportunities for students. When teachers are included in the process, they are much more likely to see the relevance and usefulness of the standards.

Education has changed from what the teacher knows and can share with students but rather to focus on what **students** know and show what they can do based on that instruction/ learning opportunity. Establishing the expected outcomes of instruction is critical. Implementing standards provides the needed structure to every day instruction.

In North Dakota, a guide of outcomes for each secondary agriculture course was created in the early 1990's. The guide has provided a useful list of performances for teachers to use in course development. With the increased use of standards, it has become essential for agricultural education to adapt to that document to a standards format. The end product will include a cross reference to academic standards as appropriate. It is through this that agricultural education will continue to provide up to date content that contributes to student achievement in a contextual way.

If I am posed the question, do we need standards? I say, "Yes." For better instruction, better determination of student learning, and more credible content. In the case of agricultural education, it is essential that at a minimum state standards are in place and those standards must be matched to core content standards as appropriate. It is one way we can show that agricultural education contributes to student achievement.

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Anissa Wilhelm is an Assistant Professor at North Dakota State University

We need standards in agricultural education.

We're Bringing Standards to Life!

By M. Susie Whittington, James Connors, & Wes Budke

We believe that the teacher education curriculum in agricultural education serves as an important framework and process for the development of agricultural education teachers who possess the knowledge, skills, and dispositions of being qualified, competent, and caring teachers (Cano, Connors, Knobloch, & Whittington, 2002). As stated by Lancelot, "Wherever a good teacher is found, a story may be uncovered of a long, patient search for better ways of instructing young people. It is a story of growth through effort" (1944, p. 4).

> What do we want our students to "know," "do," and "be?"

Thus our story of growth through effort at Ohio State began in 2000. With the release of the new AAAE standards, we were compelled to thoroughly re-examine the standards that guide our curriculum for undergraduate preservice teacher education. Like many of you, our curriculum is driven by NCATE, INTASC, NBPTS, AAAE and most recently by PRAXIS. We began our "growth through effort", therefore, with a four-hour visual cross walking exercise that resulted in a "Standards Matrix" of every standard from each of the previously mentioned organizations.

Two weeks later we revisited the "Standards Matrix" and asked ourselves, "given that we believe the standards in this matrix truly capture the essence of excellent preservice teacher preparation, what do we want our students to "know", "do", and "be" at the end of each of their four years as a preservice teacher in our department?" Many steps across many months followed as we reinvented our program. However, captured in this article is an executive summary of our second (of many!) four-hour sessions into answering, "what do we want our students to know, do, and be", and thus creating, "A New Vision for Undergraduate Education" (Cano, Whittington, Connors, & Knobloch, 2001).

FOUNDATION - Building Foundations in Agricultural and Extension Education

Being interested in teaching and thinking about the problems teaching presents (Lancelot, 1944).

Knowing - Knowledge of:

♦ Historical, social, cultural, psychological and philosophical tenants of agricultural and extension education (instruction, experiential education, leadership development)

♦ Broad career field of agricultural and extension education from kindergarten through adult education.

♦ Professional ethics including proper conduct for an educational professional and awareness of sexual harassment policies.

♦ Interpersonal human relations and the art of listening and questioning skills.

♦ Educational law and policy issues.

Doing - Ability to:

♦ Observe interaction within educational settings

♦ Interview administrators and educators - focusing on the philosophy, psychology, cultural and social tenets of teaching and learning.

♦ ·Analyze information obtained from one-on-one interviews with agricultural and extension education professionals.

♦ ·Develop a personal two-year (freshman and sophomore) educational plan including recommendations for self-improvement and the development of needed skills.

♦ Sustain a 2.5 minimum cumulative grade point average (CGPA).

Being - Being a:

♦ Critical observer of teaching and learning in educational settings.

♦ Reflective practitioner of teaching and learning situations.

EXPLORATION - Ex-

ploring Agricultural and Extension Education

Developing a passionate desire to be superior educators, (Lancelot, 1944).

Knowing - Knowledge of:

♦ Application of social, cultural, psychological, and philosophical knowledge to agricultural and extension education settings.

♦ Professional ethics in teaching and learning environments.

♦ Diversity issues within educational settings.

♦ Diverse learning styles exhibited by learners.

♦ Scholarship opportunities within agricultural and extension education

• Periodicals (e.g. The Agricultural Education Magazine)

• Research journals (e.g. Journal of Ag Ed, Journal of Extension, etc.)

• Professional organizations (e.g. NAAE, NA4-HA, etc.)

• Professional meetings (e.g. NAAE, Central States, etc.)

• Scholarly writing in agricultural and extension education

• Professional development opportunities (e.g. Beginning Professionals, graduate degrees, inservices)

Doing - Ability to:

♦ Evaluate personal teaching skills based on PRAXIS or extension evaluation of teaching assessment.

♦ Develop a personal career objective statement.

♦ Develop a personal philosophy of teaching and learning.

♦ Exhibit professional conduct.

♦ Sustain a 2.5 minimum cumulative grade point average (CGPA).

♦ Apply for professional standing.

Being - Being a:

♦ Passionate learner with a desire to become a superior educator. (In addition to the foundations level dispositions).

PLANNING - Professional Planning in Agricultural and Extension Education

Seeking to understand the principles of teaching and learning and to develop better methods of teaching (Lancelot, 1944).

Knowing - Knowledge of:

♦ Curriculum and program planning (advisory councils, community needs assessment)

♦ Teaching in formal and non-formal educational programs.

♦ Instructional media and design.

♦ Teaching methods.

♦ Laboratory teaching and management.

♦ Integration of leadership and experiential education.

♦ Managing the educational environment including conflict resolution and discipline strategies.

♦ Evaluation of teaching and learning.

♦ Application of research findings to educational settings (research-to-practice).

♦ Cognitive development of learners

• Higher order thinking skills

• Problem-solving skills

• Critical thinking skills

• Creative thinking skills

• Independent thinking skills

• Decision-making skills

Doing - Ability to:

♦ Exhibit professional appearance, attitudes and dispositions.

♦ Demonstrate a variety of teaching methods.

♦ Execute daily teaching plans.

♦ Write a scholarly article for publication

• The Agricultural Education Magazine

• Journal of Extension

• Other publications

♦ Develop a scholarly poster (inquiry) for presentation at a scholarly meeting.

♦ Create a field- and laboratory-based management plan.

♦ Create a curriculum or program of work and their related components.

♦ Create a positive learning environment.

♦ Participate in leadership development and experiential education programs.

♦ Participate in professional development activities (e.g. Tech Update, inservices, extension workshops, etc.)

♦ Complete the process for admission to professional standing.

Being - Being a:

♦ Becoming a professional educator who exhibits appropriate planning, teaching, and scholarly inquiry skills related to teaching and learning. (In addition to the foundations, and explorations level dispositions).

PRACTICUM - Professional Practice in Agricultural and Extension Education

Continued perfection of teaching skills and the development of a genuine pleasure and satisfaction in teaching (Lancelot, 1944).

Knowing - Knowledge of:

♦ Professional responsibilities of a practicing educator.

♦ Professional ethics as applied in teaching and learning settings.

♦ Lifelong learning skills and reinforcement of knowledge, skills and dispositions.

Doing - Ability to:

♦ Exhibit professional appearance, attitudes and dispositions.

♦ Demonstrate professional conduct.

♦ Collaborate with other educators to develop quality learning experiences.

♦ Develop culturally relevant teaching for diverse learners.

♦ Teach in a field- or laboratory-based setting (extended or sustained).

♦ Integrate instructional media and technology into educational programs.

♦ Integrate leadership development and experiential education activities into educational programs.

♦ Interact with other educators, administrators, parents, agricultural business owners, producers, volunteers and citizens in the community.

♦ Complete PRAXIS II (teacher education students only).

♦ Participate in professional development activities

Being - Being a:

♦ A person who possesses the knowledge, skills, and dispositions of being qualified, competent, and caring. (In addition to the foundations, explorations, and planning level dispositions).

Summary

Concerns about the effectiveness of our education system continue to rise. However,as a result of our department's intense reflection and application regarding the standards that drive us, we wrote, "A New Vision for Undergraduate Education" (Cano, Whittington, Connors, & Knobloch, 2001) with sincere belief that our current undergraduate teacher preparation is far-exceeding our previous effectiveness. More importantly, our new standard-driven curriculum, is stretching our students to meet new challenges in content and pedagogy not previously possible in preservice teacher preparation in our department. As Lancelot would predict, our efforts are paying-off as we continue to grow.

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M. Susie Whittington is an Associate Professor at The Ohio State University

James Connors is an Assistant Professor at The Ohio State University

Wes Budke is an Associate Professor Emeritus at The Ohio State University

Beginning Agriscience Teacher Standards: Whose? How? Why?

By Bob Williams

Agriscience teachers are affected by several factors in their preparation for one of the nation's greatest professions. A common factor among most prospective agriscience teachers is the one of standards for licensure or certification. Perceived by many as an institutional or state government hurdle to *weed out* the undesirable, prospective teachers look at the standards and related assessments with anxiety and sometimes with disdain or even disgust.

> Beginning agriscience teachers are expected to meet specific standards related to licensure and certification.

Standards for beginning agriscience teachers in Texas have recently been revised and as a member of the team developing the standards, I have been surprised as to how the team's work was interpreted, edited, and shape into its adopted form. While the standards primarily reflect the consensus of the team, the adopted form of the standards includes additional expectations. The related assessment to measure what the beginning agriscience teacher should know is under development. Prospective agriscience teachers and teacher educators await the new exam with varied degrees of anxiety. n addition to the standards related specifically to the teaching of agriscience, our preservice students must also pass a general examination related to the profession of teaching at grade levels 8-12.

This exam, the *Texas Examination of Current Standards for Pedagogy and Professional Responsibility 8-12 (TExES PPR 8-12)* and the preparation for the standards upon which it is based, represent the primary focus of this article. Teacher educators both inside and outside of agricultural education, mentors, and supervising teachers contribute at various levels to the preparation of candidates to meet these standards. The exam is perceived by many prospective teachers as the most challenging aspect of the certification process. However, its importance in assessing the preparation of beginning agriscience teachers is limited. These limits and additional strategies for assessing preparation of beginning agriscience teachers will be discussed.

Whose Standards are Used?

A previously mentioned, beginning agriscience teachers are expected to meet specific standards related to licensure and certification. In Texas, the standards for *TExES PPR 8-12* and the are delivered as well as the assessment methods used to determine the competence of beginning teachers.

> **This assessment is based on observations, interviews, and a review of sample teaching materials.**

How are the Standards Assessed?

Examinations are used to assess what the beginning agriscience teacher *should know*. However, exams such as the *TExES* cannot assess skill level or competence related to what the beginning agriscience teacher *should be able to do*. This latter aspect of assessment is where teacher educators, mentors, and supervising teachers become critical. Mentors and supervising teachers provide ongoing formative assessment during the early field ex-

periences and student teaching or professional teaching practicum. This assessment is based on observations, interviews, and a review of sample teaching materials. It may include feedback through discussion or standardized forms provided by the teacher education institution. Summative assessments from mentors and supervising teachers come in the form of letters of reference, or in some cases, the absence of such letters.

Standards provide a framework for assessment and accountability.

Teacher educators contribute to the assessment of beginning agriscience teachers in a more formalized approach. They require evidence of planning and presentation skills prior to placement in student teaching or the professional teaching practicum. A review of written documents and observation of classroom presentations and laboratory demonstrations are usually included in the grading process for agricultural education methods courses, resulting in a combination of formative and summative assessment. Observation records, reflective journals, and a review of lesson plans, exams, and laboratory exercises used by student teachers may be included in the assessment methods used by teacher educators.

Beginning agriscience teachers may also take an active role in documenting their competence in teaching by creating portfolios that demonstrate organization and planning skills, parental communication, public relations, and involvement in FFA advisor responsibilities. Portfolios offer stakeholders in agricultural education the opportunity to evaluate the beginning teacher from a qualitative perspective. Teachers seeking certification with the National Board for Professional Teaching Standards are required to submit a portfolio that will demonstrate how their teaching meets the national standards. This portfolio must contain work samples such as unit and lesson plans, student assessment, and student-teacher interaction, thus requiring written and videotaped examples.

Why are Standards Needed?

Beginning teacher standards offer a set of commonly accepted parameters upon which an institution may develop or improve a program and those preparing to teach will know what is expected of them. These standards also provide a framework for assessment and accountability. As the competition for funding increases, institutions will be expected to demonstrate their effectiveness in preparing new teachers. Beginning agriscience teacher performance on standards-based assessment is used to determine the effectiveness of the teacher preparation program. Standards are indicative of professionalism and offer direction for continued professional development.

Conclusion

Standards are used to determine how well beginning agriscience teachers are prepared. Standards serve as a basis for planning and delivery of teacher education programs in agriscience and play a role in the accountability of these programs. Standards are also used to direct professional development of agriscience teachers. Assessment of beginning agriscience teacher standards occur in formative and summative formats using quantitative and qualitative methods. Therefore, standards from various perspectives play a critical role in shaping the future of our profession.

Bob Williams is an Assistant Professor at Texas A&M - Commerce

Standards from various perspectives play a critical role in shaping the future of our profession.

Standards in Pre-Service Classes: The New Denominator for Agricultural Teacher Education

By David M. Coffey & Robin L. Pieter

Attendees at a December 2003, New Teacher and Administrator Workshop in Kentucky, were divided into two groups: administrators and agricultural teachers with three or less years of experience. Administrators listed the three things most expected of their teachers of agriculture while agricultural teachers listed the three things that they perceived their administrators most expected of them. Administrators listed curriculum alignment, assessment scores, and being a team member as expectations for a successful teaching career and agricultural education program. Agricultural teachers listed winning FFA events, meeting obligations of extended employment and community involvement as some perceptions of administrator expectations.

How has agricultural education so broadly missed its role if administrators think so differently from their teachers? Does the era of accountability mean there is no need for a program if agricultural curriculum content is not aligned with state standards and assessed in the manner of its state assessment? Do national curriculum initiatives meet most standards of local agricultural education programs? What is the role of pre-service teacher education in standards based instruction and assessment?

Considering the Issues

The focus on career preparation has long been a major component of secondary agricultural education. Some experts argue that the mission of agricultural education is to prepare and support individuals for careers (Case & Whitaker, 1998; Phipps and Osborne, 1998). Has the focus on the workplace changed? Has the paradigm shifted from community-based needs to teaching core concepts to improve school and district test scores? Is success measured by meeting local needs or by assessment of state standards?

Answering these questions involves looking at existing realities in many of our communities. Agriculture is usually an elective, and states rarely assess things such as employment, post-secondary training, personal growth, and leadership development, hallmarks of an effective agricultural education program. At the same time, administrators are pressured to improve performance in courses required for graduation. Since agricultural instructors often receive additional compensation for extended employment, decision makers may question the wisdom of funding one FTE in agriculture when they could possibly hire two teachers in academic areas covered under state standards and assessment mandates.

Can you justify your program as it relates to science, social science, math, reading and writing content? How would you respond to the following scenario? Imagine that you are being considered for a teaching position at a suburban school in your state. There is a Site Based Committee (SBC) that regularly reviews programs and makes recommendations on school programs. Test scores reveal declines in arts and humanities, as well as reading. All other areas show increases at high rates. The SBC members must decide whether to continue your program or add another arts and humanities instructor. You have an opportunity to speak with the SBC about your program to convince them that it should remain in place. In response to the committee's request, you could consider the following things:

♦ Do courses in your program relate in some way to SBC members and what they are likely to consider in making a decision? How can you relate this to the committee?

♦ Has agricultural education contributed to improvement in overall school test scores? If so, how?

♦ Do SBC members understand recent technological changes and educational reform efforts that have made agricultural education "more than farming?"

♦ What contributions do you, personally, make to the school's instructional team?

♦ What are the specific student academic and personal opportunities that would be lost if your program were dropped?

♦ What are your instructional and program goals and your vision for the future? What things in your program are you currently working to improve?

What is the role of preservice teacher education in helping teachers deal with a scenario such as that outlined above? In standards-based instruction and assessment? Why is an understanding and application of teaching standards needed in preservice ag-

ricultural education?

The Role of Teacher Education

To better prepare teachers to respond to a scenario such as the one described above, we suggest the following activities for preservice classes in program planning and teaching methods:

♦ ·Most state education department websites contain a wealth of materials on testing, school scores, curriculum models, and instructional tools. Assist students in comfortably navigating the site and using it as a problem-solving tool.

♦ ·Familiarize students with your state's standards and assessment content. Have them print the materials and request that they always have them available for class discussions. Have students identify specific areas of alignment between agricultural content and crucial academic areas such as reading and mathematics.

♦ Practice curriculum alignment using the scope and sequence of 1-2 courses offered in agricultural education. Relate each unit to science, math, social science, reading, writing, etc. Utilize lesson titles or objectives align materials according to academic content expectations.

♦ Work cooperatively with teachers in your state to secure school calendars. Have students practice integrating assessment dates and subject matter into their curriculum projects.

♦ Have students investigate test results of their respective high schools and student teaching centers. Utilize role-playing as an administrator, a curriculum supervisor and a beginning agricultural teacher to brainstorm how the agricultural program can help improve overall scores.

♦ Assess students' abilities to articulate the content and purpose of state standards and assessment mandates as they are likely to confront this in an interview.

♦ Print rules for a National FFA CDE and align the content to state standards. For example, you could have students align FFA LifeKnowledge materials to state content standards. Interestingly, one may find that some activities related to SAE, laboratory activities, and FFA could be difficult to justify in some state curriculum frameworks.

♦ Explore and use state models for assessment. If your state utilizes constructive response, open response, short answer, multiple choice and/or portfolio entries, utilize these models to assess your students' performance. Rubrics are a must so assist students in constructing a scoring guide and utilizing it accurately. Does the assessment mirror state content standards? If not, why should one assess the material?

♦ Justify each lesson. Choose a lesson from a Web site, packaged curriculum, textbook or self-generated lesson plan. Have students write a justification of that lesson according to state standards connecting core content and teaching strategies to higher level thinking. If the lesson cannot be justified according to state standards, delete it!

♦ Conduct mock interviews or teacher lounge "chat" where students justify their programs according to state initiatives. Allow other students to assume roles of administrators or other non-agriculture teachers. Assess students on their use of key terms including standards, assessment, integration, higher level thinking, teaching strategies, and curriculum alignment.

♦ Visit administrators during a field trip to a local school. Ask them about changing roles of teachers, the value of assessment scores, and their expectations of agricultural teachers.

♦ Last, but certainly not least, include future teachers in assessing state agricultural standards. If your state is assessing career cluster completers, arrange to take students to the assessment meetings. Not only will they gain an appreciation of the importance of the process; they will gain invaluable knowledge in teaching students key points in the evaluation process.

Conclusion

To sum, in this era of accountability assessment of standards may differ from state to state, but the common elements of student and school progress scores remain. Has teacher education in agriculture incorporated this major educational change in its preservice program?

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David M. Coffey is a Professor at Western Kentucky University

Robin L. Pieter is an Assistant Professor at the University of Kentucky

Involving Academic Partners in Establishing Standards in Agricultural Education

By Mark Balschweid

In its recommendations to agricultural education, the National Research Council (NRC) provided specific guidelines for improving the relevancy and effectiveness of a revised curriculum (NRC, 1988). Included in their recommendations were the following:

♦ Teacher education programs in agriculture should continue to stress applied learning, but should strengthen instruction in science.

♦ Teacher education programs in agriculture should establish formal links with colleges of agriculture and education, cooperative extension, and private-sector organizations to develop new in-service programs and opportunities for teachers and administrators.

♦ Colleges of agriculture should become more involved in curriculum reform, creation of new material and courses, and in-service education programs.

♦ Teacher educators in agriculture should establish better links with colleagues in other colleges, such as experts in science education (National Academy of Sciences, 1988; p. 47).

According to the NRC, making needed changes in agricultural education requires state-level leadership from teacher training institutions and departments of education. Linkages with university faculty from various disciplines in science and agriculture can provide opportunities for subject matter experts to validate the integration of science and agriculture at the secondary level. Faculty in teacher education cannot work in isolation of scientists and researchers when creating standards based curriculum that will meet the assessment driven accountability structure of today. This article provides a description of how one state approached the creation of new curriculum in agricultural education using a broad coalition of scientists, researchers, and industry representatives to create standards that could serve students interested in agricultural education regardless if their immediate career path is the workforce or higher education.

In their white paper, *Improving Student Achievement in Science: An Important Role for Secondary Agricultural Education in the 21st Century*, Edwards, Leising, and Parr (2002) suggested that we should assess student learning in agriscience using authentic benchmarks, standards, and rubrics. In June 2003 the Program Director for Academics in the Indiana Department of Education, and the Associate Dean for Academic Programs in Purdue's School of Agriculture began to discuss creation of secondary agricultural education courses that would be different than any others. In concept, these courses would prepare students for opportunities in career and technical education fields, and would also "count" as advanced science courses (not vocational electives) towards high school graduation, including honors. These courses would also be accepted as advanced science at every higher education institution in Indiana.

The Indiana Department of Education had previously devised an approach for development of standards for Mathematics, Science, English, and Social Studies statewide curricula. This same approach to the development of standards for new courses in agricultural education enabled the creation of clear, challenging academic standards in agricultural science.

Expert Review - Internal

Once the Department of Education (DOE) and Purdue University's Office of Academic Programs agreed to the approach, a list of reviewers that would serve on the committee to establish the standards for the advanced science courses in agricultural education was compiled. The committee was made up of five university professors in biology from five institutions of higher education, five university professors of chemistry from five institutions of higher education, one university professor each in plant genetics and animal science, two representatives from Indiana's life sciences industry, one representative of science education at the state level, and five high school agricultural science and business teachers. This group, labeled "internal reviewers" (since they were internal to Indiana) met initially in August of 2003.

The internal reviewers developed standards for three courses: *Advanced Life Science: Plants*, *Advanced Life Science: Animals*, and *Advanced Life Science: Foods*. In all, 115 standards were developed for the *Advanced Life Science: Animals* course; 60 standards for the *Advanced Life Science: Plants* course; and 48 standards for the *Advanced Life Science: Foods* course.

Expert Review - External

The next phase of the development process required the involvement of external reviewers from credible sources outside of Indiana. This was needed to ensure that the standards were as rigorous as any in the country and to validate the procedure undertaken by the internal review process. The Council for Agricultural Science and Technology (CAST) evaluated the substance of the standards for each of the three proposed courses. Their feedback of the initial documents provided recommendations for change for each course. CAST representatives presented their findings to the internal reviewers at a meeting in September of 2003. During that meeting, reviewers incorporated additional changes into the standards for each course. Once consensus was achieved by the internal and external reviewers the three sets of standards were delivered to the Indiana Department of Education for the next phase of the project.

Stakeholder and Public Input

Tyler (1949) stated that three areas are important in any curriculum development: consideration of learners, the subject specialists, and society; public input is important in the development of curriculum. In March 2004 the academic standards for agricultural education were uploaded onto the front page of the Indiana Department of Education's website with instructions for providing electronic feedback. Positioning of these standards front and center allowed practitioners, citizens, and program stakeholders to critique them for 60 days. Armed with this feedback, project directors fine tuned the standards for each of the three courses. This process is essential since an often cited criticism of educational reform is that if parents, teachers, community leaders, and administrators have little or no involvement in the development of new curriculum, they will be uninformed of changes and unable, or worse, unwilling to defend the reform when challenges occur (Massell, 1994). Inviting public input through a web-based platform allowed for "buy in" of individuals interested in the project from a statewide audience.

Final Approval

In March of 2004 the standards for the three courses, *Advanced Life Sciences: Animals, Advanced Life Sciences: Plants, and Advanced Life Sciences: Foods* were forwarded to the Indiana State Board of Education for preliminary review and approval as advanced science courses. They were met with overwhelming support and are on track for final approval later in 2004. The standards were submitted to the Indiana State Commission for Higher Education with a similar positive response. Upon final approval, the courses will be the first career and technical education courses in Indiana approved for advanced science credit towards high school graduation (including the academic honors diploma) and will be accepted as entrance science credit for all students entering an institution of higher education anywhere in the state of Indiana.

The final piece of this project is the course rollout set to occur with one new course each academic year beginning 2004-05. In addition, a professional development component has been developed that will prepare teachers in the pedagogy and subject matter training necessary for teaching advanced science concepts.

This represents a fundamental shift in the way many in the state view agricultural education and its role within the context of the total curricular offerings. Indiana's agricultural science and business teachers will still have the current course offerings to teach, but for the first time teachers will have the opportunity to offer an advanced science course built upon rigorous, measurable, world-class standards of performance.

The model presented herein gives promise for others to begin the implementation process for new course standards that are rigorous, measurable, and based on world-class standards of performance. And while the emphasis has been placed upon the product, the process cannot be overlooked. Benefits of collaborating with scientists, researchers, business and industry representatives, and others are immeasurable. This process allows for opportunities to expand the circle of stakeholders involved in agricultural education and can strengthen and broaden the impact agricultural education has upon all students regardless of their future aspirations.

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Mark Balschweid is an Assistant Professor at Purdue University

What Gets Measured, Gets Done!

By James R. Woodard

"What gets measured gets done." This premise for developing standards is at the core of educational improvement. If it is not important enough to measure, then it is not important enough to do. Leaders in the agricultural education program in Georgia realized this in the mid-1990's. State FFA membership was hovering around 11,000. Membership in the Georgia Vocational Agriculture Teachers Organization (GVATA) was around 50%. No FFA Foundation existed and no organized fundraising effort was underway. FFA Alumni membership, though high in terms of life members, was very weak in terms of active members. The curriculum was stagnant and lacked academic rigor. Programs were closing. Fewer students were entering the teacher education programs to become agriculture teachers. Some teachers taught agriculture, some taught FFA, and others exhibited livestock. Then came the infamous State Performance Audit of September 1994 — a real "Dooms Day" for the future of agriculture education in Georgia— or was it? I have often referred to this audit as the salvation of the present day program.

One result of the Audit was that we realized we had lost sight of the one thing that was most important — the integral approach of the agricultural education program in Georgia. The Audit provided a mechanism for teachers to rally together, to put aside the petty issues of yesterday, and pull together the forces of tomorrow. Most importantly, it gave the motivation to define the expectations of a "balanced agricultural education program", the foundation of the success which our program has enjoyed in recent years.

The best way to obtain results is by having those who are responsible to define expectations for themselves. I learned this lesson in high school the first time my teacher let the class members write their own test. It didn't take long for us to realize that what we thought was fun the day before, became a turning point in our grades on the day of the test. Professionals with their and others' futures at stake will do the right thing.

The best way to get results is by having those who are responsible to define expectations for themselves.

The Georgia teachers, led by Dr. Dennis Shepard, then President of the GVATA, embarked on a series of teacher meetings to develop the Georgia Performance Indicators for Agriculture Education Teachers. This document was introduced through the following paragraph:

"We, the members of the Georgia Vocational Agriculture Teachers' Association, are teachers of agriculture by choice and not by chance. We believe in American agriculture and dedicate our lives to its development and the advancement of its people. Consequently, we wish to maintain high standards for our programs knowing that only through comprehensive, high quality programs can we provide the kind of educational experiences for the youth and adults of our communities that will meet their needs and have a lasting, positive influence in their lives" (Sheppard, July, 1996).

Henceforth, this was to be the basis for conducting a standards-based program of agricultural education.

That year, programs began to be evaluated by regional staff using the standards developed as a result of the GVATA efforts. Programs were identified as either standard or non-standard. The primary focus was to identify areas of needed program improvement by identifying areas of concern with the major areas of maintaining a balanced program. The areas of evaluation included:

♦ Professional Standards - *Teacher certification, professional organization membership, monthly reports, -professional development*

♦ In-School Instructional Program Standards - ***Enrollment counts, lesson plan development, course calendars, leadership and personal development taught, approved course offerings***

♦ Supervised Agricultural Experience (SAE) Program Standards - ***Percentage of students with SAE's,***

supervision of SAE's, record keeping taught, proficiency award application(s) submitted

♦ FFA Standards - ***Program of Activities and budget submitted, systematic instruction on FFA, chapter meetings conducted, awards banquet conducted, participant in individual and team leadership activities, official delegates at state convention, competition in competitive activities (CDE), State FFA Degree Applicants***

♦ Adult Education Standards - *Organized adult classes taught, FFA Alumni affiliate*

♦ Local System Support Standards - *Travel expenses provided, extended contracts, planning period during school hours, adequate budget for supplies and equipment.*

The standards were the center of discussion at the 1996 GVATA Summer Leadership Conference. The motion to adopt the standards passed with very few negative votes. However, the impact on agriculture education is still felt today. Though the standards were later renamed Performance Indicators (to avoid confusion with standards developed in 1998 for all Department of Education grant programs — Extended Year, Extended Day, and Young Farmer), they serve today as a guide for local program improvement. Teachers have great respect for this document. It went through a revision process once and very few things changed. It is, in my opinion, the ultimate tool for identifying areas of need and for developing an improvement plan for a teacher or local program.

So if we believe in the phrase, "What gets measured gets done," then that is what has been accomplished in Georgia since 1996. The following is the current situation:

Professional Standards. Ninety-nine percent of all Agriculture teachers in Georgia are members of the GVATA. The two teacher education institutions recently graduated the largest class of apprentice teachers since the mid 1960's. The University of Georgia added a satellite teacher-education site for the purpose of meeting the needs of a growing profession.

In-School Instructional Program Standards. Eight versions (seven years) of a curriculum CD have been published, which include over 2000 lesson plans and thousands of educational resources developed by teachers for all approved courses. The middle school curriculum has been revamped and approved and recent academic connections were added to all lessons. The curriculum has been diversified to include such courses as veterinary science, biotechnology, agriscience, environmental science and forestry/natural resources.

Supervised Agricultural Experience Program Standards. The quantity and quality of Supervised Agriculture Experience Programs have dramatically increased. This includes a record number of National Finalist (10) and National Winners (4) in proficiency awards from Georgia. Major increases have occurred in the categories and number of related SAE's.

FFA Standards. FFA membership has grown from 11,860 in 1996 to 24,013 in 2004. There have been major increases in the engagement of students involved in FFA leadership events and conferences, in addition to Career Development Events. Participation in leadership camps has doubled. The Georgia FFA Foundation, developed in 1998, raised more than $345,000 in 2004 compared to $82,500 in 1998.

Adult Education Standards. There have been increases in both the number of active alumni support and the number of alumni affiliates. Membership and the number of chapters have both increased by 50%.

Local System Support Standards. Probably the most impressive improvement is the fact that in the past five years, more than 60 new teacher positions have been added. To me, this validates that local improvement is taking place and that neighboring systems are agreeing to the advantage of having an agriculture program.

Although I would be the last to agree that all of our work is done, I do often remind the teachers that we have made great strides in program improvement. This improvement has come about because of expectations of teachers and accountability of the profession.

The most recent development in our list of accomplishments is the development of an on-line report system that will gather teacher data to give a true picture of the real impact agriculture education makes at the local level. This will greatly improve the rationale that local teachers of agriculture education make a tremendous impact because of the number of students that they engage in meaningful activities.

Conclusion

In conclusion, programmatic standards have been the driving force behind every major accomplishment of the Georgia agriculture education program. However, without the *total team approach* (everyone pulling their part of the load), the standards would be nothing more than words on a paper. For standards to meet expectations, professional commitment is required.

James R. Woodard is State Director of Agriculture Education, Georgia Department of Education

Subject Index - Volume 76
July - August 2003 to May - June 2004

Action Research

Advisory Committees

Developing and Promoting a Vision for Agricultural Education

Facilitation of Learning

LifeKnowledge Curriculum

Teaching

How do I know I really make a difference in my classroom and program?
Read the next issue of the
THE AGRICULTURAL EDUCATION MAGAZINE
for some methods to determine if you are.

Author Index - Volume 76
July - August 2003 to May - June 2004

Note: The Author Index presents author's name and months of issue

The Agricultural Education Magazine - 2005 Themes

The focus of The Magazine is to be a "hands-on," practical approach journal. Articles should share specific steps one can to make teaching an learning in and about agriculture more efficient, enjoyable, and effective. The best articles for the The Magazine are ones that have a clear point and share practices that can be used in the "real world" of teaching agriculture.

January – February 2005

The Science of Teaching

Teachers of agriculture have often been accused of "teaching from the hip." Perhaps it may be that many do not really understand the "science" of teaching. This issue will look at the principles of teaching and learning, teacher behavior and student achievement, learning styles, objectives, and other related "science of teaching" components.

Theme Editor: R. Kirby Barrick
University of Illinois
101 Mumford Hall
1301 West Gregory Drive
Urbana, IL 61801
Email: kbarrick@uiuc.edu
Phone: (217) 333-3380
Due to Theme Editor: November 15, 2004
Due to Editor: December 1, 2004

March – April 2005

The Mechanics of Teaching

This issue will look at the development of a "program" for agricultural education at the secondary level, identifying needs, determining what content to teach, determining sequencing of the content, developing an actual course for agricultural education at the secondary level such as writing objectives, determining teaching strategies, and developing student assignments. This issue will look at the things that teachers need to do to teach …getting things done before ever walking into the classroom.

Theme Editor: Anna Ball
University of Illinois
131 Bevier Hall
905 South Goodwin Avenue
Urbana, IL 61801
Email: aball@uiuc.edu
Phone: (217) 244-5651
Due to Theme Editor: January 15, 2005
Due to Editor: February 1, 2005

May – June 2005

The Art of Teaching

This issue will look at the broad topics of delivering instruction to learners. Included will be articles on effective lecturing, active learning strategies, problem-based learning, case methodology, and the use of technology for the delivery of instruction.

Theme Editor: Robert Torres
University of Missouri
126 Gentry Hall
Columbia, MO 65211
Email: torresr@missouri.edu
Phone: (573) 884-7376
Due to Theme Editor: March 15, 2005
Due to Editor: April 1, 2005

July - August 2005

The Assessment of Teaching

This issue will look at the assessment of student learning such as formal and non-formal sources of assessment and feedback, assessment of teaching including student feedback, self-assessment and peer observation, and the philosophy of teaching which reflects assessment of teaching and learning.

Theme Editor: Anissa Wilhelm
North Dakota State University
155 EML Hall
Fargo, ND 58105
Email:
anissa_wilhelm@ndsu.edu
Phone: (701) 231-7439

Due to Theme Editor: May 15, 2005
Due to Editor: June 1, 2005

September - October 2005

Resources for Teaching

This issue will look at the resources available for teachers. The previous issues for 2005 address the science of teaching, the mechanics of teaching, the art of teaching, and the assessment of teaching and learning. This issue will incorporate information on resources in each of the prior theme issues.

Theme Editor: Will Waidelich
The Ohio State University
1114 Chambers Road
Columbus, OH 43212
Email:waidelich.1@osu.edu
Phone: (614) 292-2817
*Due to Theme Editor:*July 15, 2005
Due to Editor: August 1, 2005

November – December 2005

Learning as a Function of Teaching

This issue will look at the concept of learning as a consequence of effective teaching. The previous issues for 2005 have focused on the teaching aspect of the teaching-learning process. This issue will focus on learning as a function of teaching and would incorporate information on how students learn as a result of how teachers teach.

Theme Editor: Gary Briers
Texas A&M University
107 Scoates Hall
College Station, TX 77843
Email: g-briers@tamu.edu
Phone: (979) 862-3000

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Due to Editor: October 1, 2005