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Standards: *Program, Content or Both--* How will this affect Agricultural Education Practice?

Pandora's Box

By Billye Foster

Sometimes life sends us flowers--sometimes thorns! Deciding on themes for a year's worth of professional trade magazines can be a daunting task. If left to my own devices, I would probably be in danger of setting themes issue by issue! Thankfully wiser souls long ago established a process that allows us to view a year ahead and really "***think***" about what needs to be addressed in the coming year.

This year, I reached out to the teachers in the field for topics. Using the NAAE Communities of Practice blog site, I posted the question of themes along with a couple of possible ideas. As active members of the profession, you responded with a resounding desire to discuss key points found in the 10 x 15 initiative. This issue represents the first of these themes.

With this decision under my belt, I geared up for a new year. Great, I thought, this will be a slam-dunk! Everyone knows about the 10 x 15 and we now have lots of material to work with. A set of national standards, loads of people trying to position programs and states to be at the top of the educational heap--no surprises. Proving, once again, life really is full of twists and turns.

Did you know that Pandora's Box was really an urn? The original Greek word used was *pithos,* a large jar often used for storage of wine or provisions. In the case of Pandora, this jar may have been made of clay for use as storage as in the usual sense. The mistranslation of pithos as "box" is usually attributed to the 16th century humanist Erasmus of Rotterdam when he translated Hesiod's tale of Pandora into Latin. Erasmus, translated *pithos* into the Latin word *pyxis*, meaning "box." We have perpetuated that mistake for centuries.

If you remember, Pandora was given the "box" as a gift--but told never to open it. Her curiosity got the best of her and she finally did--unleashing all manner of evil and ill will upon the world.

As we work through the concepts of standards and questions of how they fit and what might be improved with their use, let us be careful not to believe that one size fits all and that the new National Standards are the "fix" for everyone. As you read through the articles in this issue you will find quite a variety of opinions and experiences regarding standards. While many believe they have been working within the framework of standards for years, others feel as though they are blazing new trails.

Possibly the greatest strength of Agricultural Education has been the ability to adapt and meet the needs of local communities. Depending on how you define "community," this concept can literally mean one program, or a district, state or the entire country. It could prove sound counsel to be cautious when opening the Standards box and remember Pandora.

We now have the tools, thanks to many dedicated hours of those that developed the National Standards following the AFNR (Agriculture, Food and Natural Resources) pathways. The National Council for Agricultural Education provided the leadership needed for that task. But while we can pat ourselves on the back for making great strides with our curriculum, let's not make the mistake of believing standards alone will drive away all our educational evils. The following issues of 2009 will give us all the opportunity to look inside our own value and belief system, when it comes to our profession, and create a stronger model from Standards to Practice--Agricultural Education for the next generation!

Billye Foster is a Professor at The University of Arizona and is Editor of ***The Agricultural Education Magazine.***

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Standards: *Program, Content or Both-- How will this affect Agricultural Education?*

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STANDARDS: How did we get here and where are we going?

By Dennis Fiscus & Jimmy Wojcik

When Dr. Foster emailed us about Standards and Agricultural Education, we thought it was about another round of meetings regarding the Standards that Arizona has developed over the years. Did it have to do with our Program Standards for which we have a review process for, or did it have to do with the Content Standards for which we have to assess annually? That was what we were thinking. As usual, she surprised us again! She wanted us to do an entire **magazine** on Standards! While at first daunting, the task turned out to be very enlightening. The life of an agricultural educator has dramatically changed since our three-circle model of classroom instruction, experiential-learning and leadership-development was developed. In a classroom today teachers are dealing with more issues than just teaching agriculture. We are responsible for high-stakes testing, academic achievement, crosswalking our standards to academic standards, curriculum mapping and now end-of-program assessments. In many states, it relates back to incentive pay for individual teachers and with the development of Program and Content Standards, we are now giving our teachers guides with which to teach. Agricultural Educators have long been the model for other programs in terms of quality of programs and leadership within our organizations. With our nation expecting more academic achievement from our students today to be able to face the challenges of tomorrow, we must once again step up to the plate. The only way to assure our students will be able to meet those challenges is to set high standards for them to achieve. The work that many states have done in the past with their Program and Content Standards is to be commended, these model standards represent work of many people including secondary educators, parents, post-secondary educators, and industry. These standards define the criteria by which one can evaluate the quality of a program. This falls directly into the 10x15 initiative designed by the National FFA Organization. Standards logically provide the foundation for testing. The testing results are a critical measure of both student and teacher success. Finally, our hope is that all agricultural education students who complete a total program are highly sought after by colleges, universities, and industry representatives through their achievement and performance in our programs, because we as educators did our job in laying the foundation for them to achieve at a much higher rate. This edition of the Agricultural Education Magazine addresses many of those issues dealing with Program and Content Standards. Our hope is that it motivates you to become actively involved in the development of standards whether you deal with them on a local, state, or national level. To see how program and content standards were developed and used throughout the country was very interesting. We hope you find the perspectives that are shared as fascinating as we did.

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***Jimmy Wojcik** is the State Supervisor for Agricultural Education with the Arizona Department of Education. He received his Bachelor's Degree in 1991 in Agricultural Education and his Master's degree in Educational Leadership in 2001. He was a previous agricultural education teacher for 15 years and a superintendent for 3 years prior to his job with the Arizona Department of Education.*

How Will a National Set of Program Standards Help Our Students

By Allison J. L. Touchstone, NBCT

From certification to No Child Left Behind, and school district bus requests to Perkins Law, academic standards, program standards, and content standards are permeating agricultural education nationwide. At least in Idaho, all three types of standards appear to be here to stay. The question becomes: do these standards make us better teachers and as a result, do we provide a better education to our students? The Idaho state Professional-Technical Education Program Standards and Agriculture Content Standards have been in place at the state level since the mid-1980s. The implementation of state-wide program standards for quality assurance and qualification for state added-cost funding has become integral to all professional-technical education programs in the state of Idaho. The advent of the National Program Quality Standards and the National Content Standards for Agricultural Education are (thankfully) directly related to the state standards that are currently in place.

Idaho's Quality Initiative was adopted and implemented in the mid-1990s as an extension and supplement to the state's program quality standards. The main motivation for the local secondary PTE programs in Idaho to actively implement and abide by the state's Quality Initiative and meet the minimum program quality standards is MONEY. Idaho's legislature annually funds the local secondary PTE programs through added cost funding provided through the Idaho Division of Professional-Technical Education. The amount of the funding is contingent on the program area in question: Family and Consumer Science programs generate $4,400 per teacher FTE, up to Collision Repair automotive programs that generate over $18,000 per teacher FTE, with Agricultural Science and Technology programs generating $10,260 per teacher FTE each year. These funds are provided in addition to the standard school funding generated for the local school district and are not related to Perkins funding.

The Idaho Quality Initiative states that the Idaho Division of Professional-Technical Education wants to ensure and support curriculum that is rigorous, relevant, measurable, and allowing for sufficient complexity in PTE. The components of the quality initiative require that the local rigorous technical programs meet industry standards, use technical achievement measures, and instruct on all aspects of the industry. Additionally, quality programs integrate Idaho academic achievement standards and provide opportunities for articulation of high school and college curriculum (Quality Initiative, 2008).

PTE programs in Idaho are generally evaluated by the program manager for that area every five years. Program evaluation is based on the Essential Program Components, or program quality standards. Programs MUST be *Approved* by the program manager in order to receive the added cost funding allocation. The program standards are divided into two categories: essential (power) standards and general standards. The list below

includes only the power standards. For a complete list of the Idaho Program Quality Standards, please visit the Program Visit information page of the Idaho Professional-Technical Education website: http://www.pte.idaho.gov/Teachers/ProgramVisitInfo.html.

ADMINISTRATION
- General standards only included for program administration.

STAFF
- Instructor holds current and appropriate professional-technical certification and endorsement(s).

PROGRAM OF STUDY
- Classes offered follow a sequence of courses for a specific program.
- An advisory committee that represents various aspects of the industry and community meets regularly and provides input for program improvement.
- Leadership development is integral to the program and is generally provided through Professional-Technical Student Organizations.

CAREER GUIDANCE and TECH PREP
- ***General standards only included for program career guidance and tech prep.***

FACILITIES, EQUIPMENT AND SAFETY INSTRUCTION
- Classrooms/laboratories are clean, orderly, and safe and students are provided appropriate safety instruction related to the program.

The power standards (Idaho Professional-Technical Education Essential Program Components, 2008) listed above are those that MUST be met for the program to be considered approved and maintain funding. If more than three of the general standards are not met, the program would be dropped to conditional approval and in danger of losing funding. The state supervisor completes the assessment during the onsite visit and utilizes the rubric as a tool for program improvement (http://www.pte.idaho.gov/Forms_Publications/ProgramVisits/PR_Checklist.pdf).

Although not every state will have the option of tying compliance with program standards to state level funding, each state will have to be creative in the implementation of the standards.

Theoretically, a program that meets these standards is implementing quality (classroom and laboratory) instruction, experiential learning (SAE), as well as leadership development (FFA). A quality program must also demonstrate involvement in the community through advisory committee implementation and meeting industry standards, all of which are also components of the Agricultural Education National Program Quality Standards. An effective combination of each of these components has the potential of fostering high quality teaching and providing the opportunity for high quality learning on the part of the students.

Although not every state will have the option of tying compliance with program standards to state level funding, each state will have to be creative in the implementation of the standards. Otherwise, what impetus will teachers, programs, and local schools have to implement program standards? Granted, quality of education is a high level motivator, but realistically, the local ag teacher has so much on his or her plate that implementation of the complete national program quality standards might end up being a lower priority than daily instruction, SAE supervision, and FFA activities.

The current pilot program being implemented by National FFA may be the most effective in encouraging local programs to utilize national program quality standards, and part of the success of this effort may relate back to the "team" approach being adopted. By involving community, school administration, and the local instructor(s), the buy-in for the standards is being established on several levels, and implementation support is being provided to the local instructor. Therefore, the Team AgEd concept is being utilized throughout the implementation process. It would make sense that this approach will not only provide positive feedback for quality program growth, but also foster buy-in to the agricultural education program from all aspects of the local community.

Although the National Program Quality Standards may initially seem to be a daunting document, the inherent concepts and the long term benefits of truly implementing quality program standards are worth

the effort. Developing quality programs nationwide that strive to implement and adhere to the high expectations such as those articulated in the National Program Quality Standards, will not only increase the quality of education our current students are receiving, but also assure quality agricultural education programs nationwide for the future.

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Comprehensive Program Evaluation--Does this REALLY work?

Time to Listen

Listening is learning. It's the avenue for recognizing opportunities, and it's also an early warning system.

~Mary Ann Smith
Politician

THEME ARTICLE

At Long Last National Content Standards for Agricultural Education

by Daniel J. Pentony

Background

The need for national content standards for agricultural education has been debated for decades. Many in the profession contended that we need such standards to give validity to our programs. Other areas of Career-Technical Education (CTE) had content standards, so why not agricultural education? For years, teachers have reported that their administrators felt agricultural education was lacking because it did not have a set of national content standards. Those on the other side of the debate argued that the application of agricultural principles differed across various regions of the country and that the development of a set of standards applicable to all programs in all states would be difficult. These people felt that any such standards would lack enough depth to serve all programs.

Due to recent federal legislation and the continued movement toward accountability, this debate became moot. If agricultural education wanted to continue to be an integral part of CTE, it had to develop national standards. Any such standards needed to be organized around the pathways that make up the Agriculture, Food, and Natural Resources (AFNR) Cluster.

The National Council for Agricultural Education took the leadership role in the development of the national content standards. In the summer of 2006, The Council distributed a Request for Proposals (RFP) for the development of the standards for the seven pathways in the AFNR Cluster. Numerous responses were received. In October 2006, CAERT, Inc. was chosen as the contractor. Funding for the project was provided by the National FFA Foundation. Oversight of the project was carried out by The Council's National AFNR Standards Committee, made up of 10 dedicated individuals from the profession who had a long history in discussions surrounding a set of national content standards. Throughout the process, the Committee stressed rigor and relevance both in the agricultural content to be covered and in the alignment of the AFNR Standards to academic standards.

At the time the development of the standards was initiated, the following seven pathways composed the AFNR Cluster:

- Agribusiness Systems
- Animal Systems
- Environmental Service Systems
- Food Products and Processing Systems
- Natural Resource Systems
- Plant Systems
- Power, Structural, and Technical Systems

Initiated in January 2007, the development process commenced with a review of the USDE's Knowledge & Skill Statements for the AFNR Cluster. The

Knowledge & Skill Statements had been available since 2001. Although they were never promoted as content standards, they did serve as a starting point and the basis for the development of the content standards.

Over the next 18 months, the standards went through multiple reviews by hundreds of agricultural educators, business and industry personnel, and academic teachers. Each review provided much needed feedback that strengthened each successive version. Once the standards were developed, they were aligned to national academic standards in math, science, language arts, and social studies. In October, 2008 the standards for the seven pathways were delivered and posted to the Ag Ed Learning Center Web site (www.AgEdLearning.org). Agricultural educators are encouraged to visit the Web site and download the new standards.

Sample Standards and Philosophy

Below is a sample of how the standards are organized within the Natural Resources Systems Pathway:

A factor in the development of the standards is the inclusion of measurement statements at three distinct levels. These statements provide sample measurable activities that students might perform at roughly the 9th–10th grade level (Level I), the 11th–12th grade level (Level II), and the 13th–14th grade level (Level III). It is anticipated that these measurement statements will serve as the basis for future assessments of the AFNR standards.

The standards listed within a particular pathway should *not* be viewed as necessary for preparing students for *specific* careers. Instead, they should be considered as common standards that pertain to all careers in a pathway. For example, the Plant Systems Pathway includes common skills needed by a horticulturist, a forester, and an agronomist. The scope is broad in that it includes common knowledge and skills required for success in any career within the particular pathway.

As the standards are distributed to the profession, some may feel that certain statements will be difficult to address. Some programs may not have the facilities or equipment necessary to carry out certain activities. The Council is aware of this fact. Its philosophy was to develop a set of standards that are forward-thinking in nature. The standards are intended to provide goals that state and local programs can strive to achieve.

Midway through the standards development process, the profession voiced the need for the addition of an eighth pathway in the AFNR Cluster. In the spring of 2008, The Council approved the development of content standards for the Biotechnology Systems Pathway. These standards will be posted to www.AgEDLearning.org in February 2009. They will be accompanied by a set of Cluster Skills Statements that involve the "soft skills" (leadership, communication, teamwork, safety) that apply to all careers in agriculture regardless of the pathway of study an individual pursues. Once these items are posted, all development work on the content standards will be completed.

Usage of the Standards by Education and by Business and Industry

Now that agricultural education has a set of national content standards, how will these standards be used? First and foremost, it needs to be understood that the standards cannot be mandated at the federal level. Thus, it will be up to each state to decide how it will integrate the standards into its agricultural education programs. Some states may choose to adopt them in their entirety as their state standards. Others will surely revise and reorganize them into structures that better fit the ways those states organize their curriculums. Teachers may see a need to organize the standards further into course outlines that can be more immediately integrated into classrooms.

Regardless of how states choose to use the standards, the profession now has a document that should be used as a guide for what students should be able to do through the study of agriculture in grades 9 through 14. The standards can be used by the states in the development of well-planned curriculums to be delivered to students throughout the country. Just as agriculture varies throughout the nation, so will our agricultural education programs. States should use the standards in conjunction with state and local advisory committees to determine what is most relevant and appropriate for their students in providing that all-important link between the school and the business/industry community.

The involvement of business and industry in the development of the standards is of key importance. Agricultural education now has a set of standards validated by business and industry, the representatives of which played an active role in the finished document. Their input ensured that the standards would reflect the needs of employers. The standards include not just those items educators felt needed

to be covered but also those skills business and industry need in employees. The fact that the profession now has a set of content standards validated by business and industry will reinforce its ability to continue to prepare students for future employment opportunities.

As each state implements the AFNR content standards, curriculum developers will take note. To be successful, these developers will want to ensure that their materials are aligned with the content standards. Beyond the alignment of materials, assessments will need to be developed to measure student attainment of the standards. The assessments will provide the profession with new data demonstrating the impact of the standards on student success in all areas of the educational experience. The availability of the standards puts agricultural education on equal footing with other subject areas. We now have a common set of standards that can be used to measure student achievement. In today's education environment, that fact is paramount to the continued funding and viability of agricultural education.

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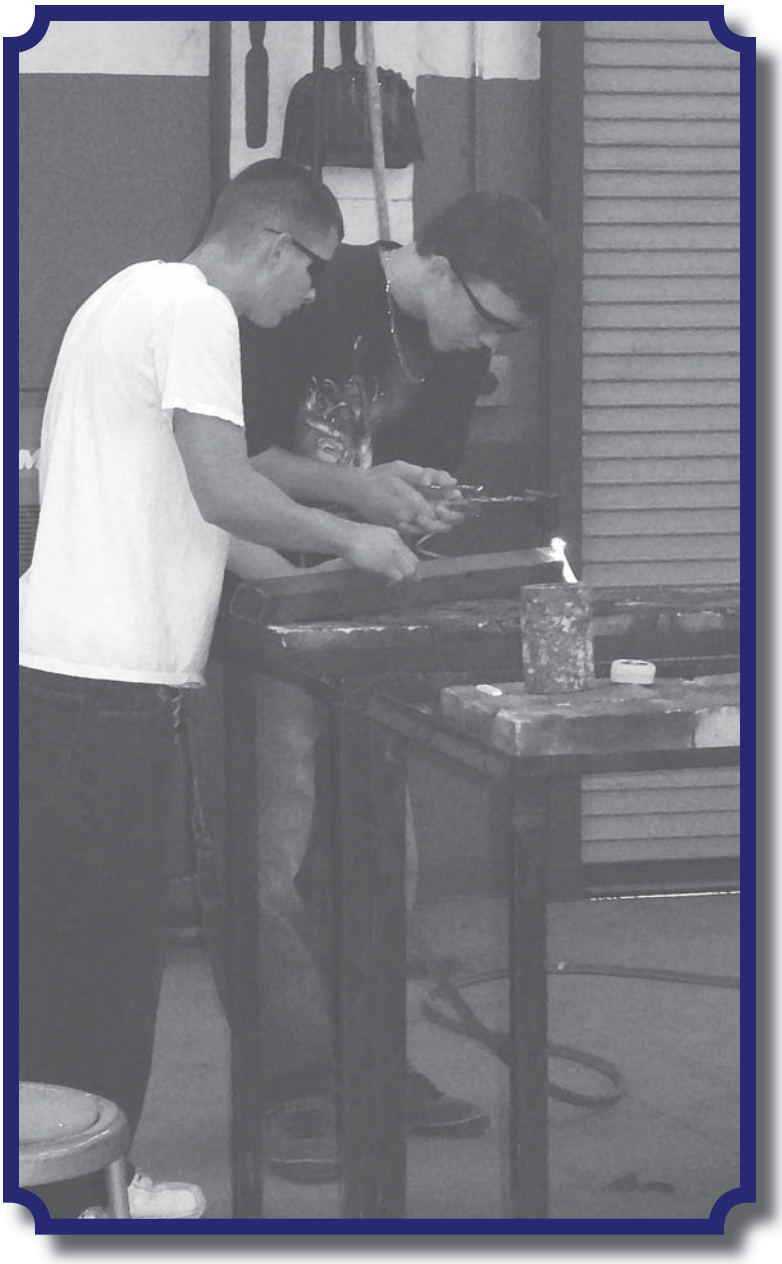

Standards--content? program? academic? Maybe it is all three!

THEME ARTICLE

Program & Curriculum Standards: Mapping the Future of Agricultural Eduction

by Quint Molina

The concept of program standards in agricultural education has been thrust into the forefront of the reconfiguration and reinvention of agricultural education as we know it. With the inception of the national career clusters, it becomes imperative that we develop a standardized program structure to guarantee that the programs available to students are able to meet the ever changing needs of a diverse student population. In order to entirely grasp the concepts dealing with program standards we must revisit the history behind the development process. In order to better understand the course we are taking we must evaluate the path that has delivered us to our present status. In 1988, a text was published by the National Research Council titled ***Understanding Agriculture New Directions for Education***. The text would prove to refocus agricultural education in the United States. In the preface, Daniel G. Aldrich wrote:

> "In the 1980s, many forces have challenged American agriculture and education. These forces include demographics; urbanization; rapid gains in worldwide agricultural production capacity; domestic farm and trade policies; lifestyle changes; global competition in basic and high-technology industries; the explosion in knowledge caused by increasingly sophisticated computers, digital equipment and biotechnical techniques; specialization within the professions; and public expectations about the role of schools, the food supply and public institutions."

The excerpt above was definitely an accurate depiction of the climate surrounding agricultural education at the time, but the question is, does the statement not ring true even today? Sure, we may need to update some vocabulary, but the fact is these concepts still fit today's situation. Two thoughts come to mind after taking a long hard look at the present state of agricultural education. First, we have been fortunate as a profession in that we have always had the right people in the right places at the right time to be able to recognize trends and be proactive regarding our future. Second, flexibility inherent to the profession allows us to redirect agricultural education in a manner most suited to positively benefit students.

To date, the redirection came in an alignment of agricultural education with the National Career Clusters that in turn has given agricultural education seven options within which we can develop and guide curriculum to better serve our students. The alignment also provides the profession with a defined niche within the national and global markets dealing with the production and marketing of highly trained, skilled labor. Most recently, the most exciting news came in an email that announced the completion of the National Quality Program Standards for Secondary (Grades 9-12) Agricultural Education. While the standards are born of a need for a baseline upon which we can measure the programs that will be created through the 10,000 Quality Agriculture Programs by 2015 initiative, it will also prove to be a tremendous tool for the evaluation and improvement of existing programs.

Improving existing programs has been a hot topic in agricultural education; a number of states have taken the lead in doing just that. Arizona is in its third year of its Arizona Agriscience Program Review Process, which is a community-based complete assessment of the local programs throughout the state. Developed by the Arizona Agriculture Teachers Association, the Arizona Department of Education, and the University of Arizona the process deals with six areas deemed crucial to the success and longevity of a program. The areas in the evaluation include: Community Relations; Advisory Council; Program Philosophy; Instructional Program; Instructional Staff; Facilities; Accountability and Finance. Each area is evaluated via a community-based team that places the community at the forefront of the program's well being. The foundation of the entire process is the Career Cluster focus and the alignment of programs under a standardized set of quality indicators.

Continued on page 12

As we begin to adopt and implement the concept of program standards there are a number of peripheral benefits that become evident. We begin to solidify the profession in the sense that an individual understands the expectations and the recipe for success as an agricultural educator. Arizona has also been able to utilize the finalized evaluation as a source of continuity when administration or teacher turnover does occur. It is proving to be a resource to new teachers who are trying to figure out what direction to take the program they have just inherited. The ownership felt by the community for the program is a benefit upon which the success of agricultural education has always thrived. The use of program standards has revived the community bond with local programs. Program standards are not new, but the alignment offers the profession an opportunity to align all programs while keeping the diversity of programs via the career cluster curriculum. As a teacher preparation unit we are excited to be able to tell students what will be expected of them as they begin teaching.

As new teachers begin to formalize a plan for building a program in their own vision, the standards and aligned curriculum become a recipe for future successes. The age-old question of what to teach, what sequence is best to follow, and what objectives are most important for my students become easy to answer now that the curriculum has been standardized. The career clusters act as a benchmark that sets a program focus and makes curriculum mapping that much easier. In closing, the program standards concept is not new but the alignment of programs across the board with high quality indicators is a means to a successful end.

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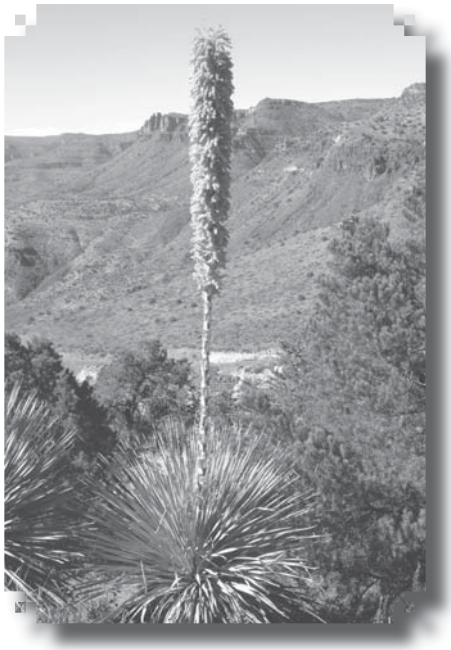


What are they? Why are they important? What are they based on? When were they developed? Who developed them? Who paid for them? Why do we need them? How are they supposed to be used? What's in it for me? These are all valid questions that have been recently asked about this highly publicized project. Let's take it from the beginning and attempt to answer these questions and more.

Need

The need for National Ag Ed Content Standards was solidified as part of a strategic planning process conducted by the National Council for Agricultural Education (The Council) in 2004. As program accountability became more prevalent on the national, state, and local levels, it became apparent Ag Ed needed content standards for accountability. Dr. David Hall, then a member of The Council, was appointed to chair this Strategic Planning Goal. A ten-member committee was appointed from across the country. Consideration was given to geographic representation as well as content specialties. This group met in person as well as conferencing by phone and electronically. It was quickly decided that professional writers/developers were needed for this extensive process.

Development Cost

A nationwide Request for Proposal was issued with many good submissions received. The Center for Agricultural and Environmental Research and Training, Inc.

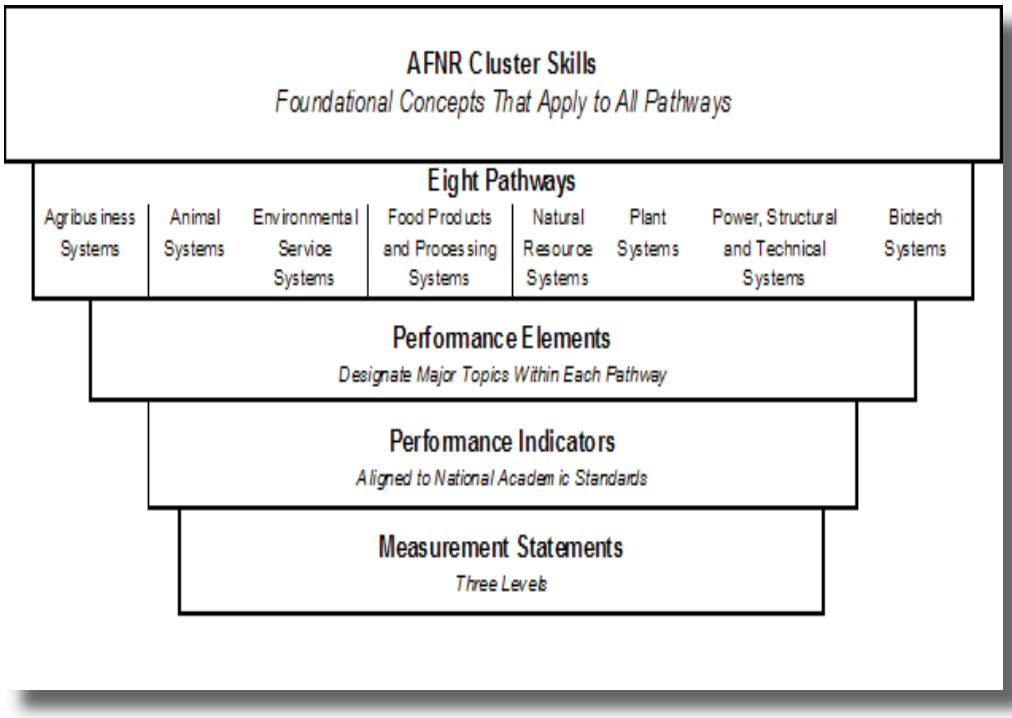
National Ag Ed Content Standards

by David Hall

(CAERT) was selected to develop the Content Standards. The ten person committee representing The Council was to have oversight to the process. Funding for this project was appropriated from the National FFA Foundation general fund for a total cost of $850,000.

Development Procedure

The development process started with an Ag Ed and Ag Industry on-line review of the 2001 Agriculture, Food, and Natural Resources (AFNR) Career Cluster Knowledge and Skill Statements. All state staff was encouraged to nominate reviewers. CAERT writers worked with this original review to develop the first draft of the content standards. The committee met face-to-face with the writers to discuss format and future directions. Draft two was developed and reviewed by 160 secondary and 70 postsecondary Ag Ed faculty from 39 states. Draft three was prepared from the Ag Ed review. This information was validated by 130 industry representatives from 32 states, again handled with an on-line procedure with nominations coming from state staff. Draft four followed and was crosswalked with the academic areas of math, science, language arts, and social studies. A workgroup representing both Ag Ed and each academic area, crosswalked the Ag Ed Content Standards to the National Content Standards of each of the academic areas. A 75% agreement was needed to declare an alignment for each of the Content Standards. Permission was obtained from each of the academic content areas to include their standards as an appendix to the Ag Ed Content Standards.



Organization of Content Standards

The Content Standards are organized in a fashion to make them usable by a wide variety of audiences. The AFNR Cluster Skills are those used by everyone, regardless of their AFNR Pathway. These are the most basic and include interpersonal skills, safety, technology and others that cross all pathways. Much of this material has been captured from FFAs LifeKnowledge. The Content Standards are divided into Eight Pathways representing the entire AFNR Career Cluster. Biotechnology has been developed as a new pathway based on input received from Ag Ed and Ag Industry during the initial technical review of the AFNR Knowledge and Skills Statements. Each of the eight pathways has Performance Elements that are the major topics of the pathway. These Performance Elements are broken into measurable Performance Indicators. These Performance Indicators have been cross-walked with each of the four academic areas and alignment is shown as part of the document. Assessments of the Measurement Statements could be developed. These Measurement Statements were developed on three levels intended to indicate advancement of knowledge and skill as opposed to grade levels.

Utilization

Nationally, the Content Standards give Ag Ed something to use as a benchmark for the content of its programs. This is what Ag Ed is

Sample AFNR Content Standard with Accompanying Academic Alignments

Career Cluster: **AGRICULTURE, FOOD AND NATURAL RESOURCES (AFNR)**

Career Pathway: **Natural Resource Systems (NRS)**

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the management of natural resources.

Level I	Level II	Level III	National Academic Standard Grade-Level Expectation
NRS.01. Performance Element: Explain interrelationships between natural resources and humans necessary to conduct management activities in natural environments.			
NRS.01.01. Performance Indicator: Apply knowledge of natural resource components to the management of natural resource systems.			Math: 5a Science: C4 and F3 Social Studies: 3h and 3k
NRS.01.01.01.a. Identify natural resources.	**NRS.01.01.01.b.** Differentiate between renewable and nonrenewable natural resources.	**NRS.01.01.01.c.** Research and debate one or more current issues related to the conservation or preservation of natural resources.	
NRS.01.01.02.a. Define ecosystem and related terms.	**NRS.01.01.02.b.** Describe the interdependence of organisms within an	**NRS.01.01.02.c.** Conduct a field study of an ecosytems, and record and document	

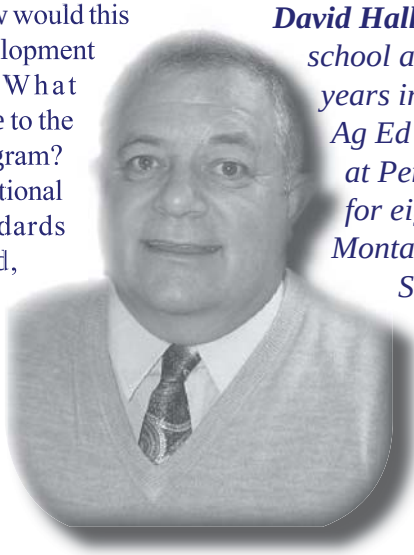
Statement of Academic Standards as Listed in Accompanying Appendix:

- **Math:**
  - 5A. Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them.
- **Science:**
  - C. Content Standard: Life Science. C4. Interdependence of organisms.
  - F. Content Standard: Science in Personal and Social perspectives. F3. Natural resources.
- **Social Studies:**
  - 3. Thematic Strand: People, Places, and Environments. 3h. examine, interpret, and analyze physical and cultural patterns and their interactions, such as land use, settlement patterns, cultural transmission of customs and ideas, and ecosystem changes; 3k. propose, compare, and evaluate alternative policies for the use of land and other resources in

all about. States are encouraged to download the standards located on-line at www.AgEdLearning.org and adapt them to the curriculum needs of the state. Local programs might use the document to prove alignment of local Ag Ed curriculum to increased efforts for improvement of academic instruction. How many times have local Ag Teachers been asked if their classes teach math or science?

Future Needs

Curriculum alignments and assessment instruments are the next logical developments. States and local programs are making curriculum changes. Unit, course, and program assessments need to be based on the Content Standards. Some states and private companies have already begun this process. If the National Ag Ed Content Standards are the benchmark for Ag Ed content, should our FFA recognition programs also be based on these standards? How would this change our Career Development Events (CDEs)? What changes should be made to the Proficiency Award Program? We now have a set of National Ag Ed Content Standards developed by Ag Ed, validated by Ag Industry, and aligned to National Academic Content Standards. As a profession we must embrace this effort and adapt our programs to use this newly created information.



David Hall *taught high school agriculture for 14 years in Oregon; was an Ag Ed Teacher Educator at Penn State University for eight years; and was Montana's Ag Ed State Supervisor and FFA State Advisor for nine years. He currently manages Montana's Agro-Energy Plan for the Montana University System.*

Content Standards

by Steve Gratz

It's been a few years since I first sat down to write a course of study, more than 25 years actually. Under the guidance of Dr. Lowell Hedges, I meandered my way through the process. A few years later, my colleague, Brad Moffitt, and I sat down to write a new course of study highlighting the sciences embedded in agriculture. Brad and I spent countless hours attempting to develop the model agricultural science course of study. Those courses of study utilized the terms task and duty statements; I fondly remember struggling with writing the statements to the proper level.

Over the last 25 years much has changed in the arena of curriculum development. Today's trend in curriculum development revolves around content standards. Content standards support achievement of all students by defining the knowledge and skills that all students should acquire. Rigorous academic and technical content standards are an essential aspect of career-technical education. Assessments aligned to technical content standards are critical for improving student learning and enhancing quality programs.

Standards-based education is somewhat new to Agricultural Education. Content standards ensure that all students can become competent in technical subject areas. Furthermore, content standards set the expectations for student learning and guide teachers in creating a clear sequence of instruction, leading to further education and employment. Content standards describe the knowledge and skills that students should attain, often called the "what" of "what students should know and be able to do." They indicate the ways of thinking, working, communicating, reasoning and investigating, and important and enduring ideas, concepts, issues, dilemmas and knowledge essential to the discipline.

In Ohio, educators and policymakers, as well as the public, came to agreement that identifying realistic and clear academic content standards would improve student achievement. Academic content standards provide a set of clear and rigorous expectations for all students. Students need to learn more and do complex work at each grade level as they progress through school. Technical content standards provide clarity to Ohio teachers of what content and skills should be taught. How the material is taught is a local school and district decision.

During the spring of 2006, the Ohio Department of Education's Agricultural Education Service called upon leaders in Ohio's food, fiber, and natural resource industry for assistance in helping Ohio's Agricultural Education programs better meet future industry needs. The Ohio Agricultural Education Service believes that Agricultural Education plays a critical role in preparing students to sustain those businesses involved in producing agricultural products, maintaining a green environment, and developing food and bio-based industrial products.

Furthermore, the Agricultural Education Service believes achieving success in preparing students for this

How School Taught Me I was Poor

by Jeff Sapp
Reprinted with permission from Teaching Tolerance magazine.

"You're poor, white trash," Danny hissed as sashayed by me on the dusty, pebble-filled playground at first recess. I started to cry, and I remember that Phillip laughed and said, "He's crying like someone threw dirt in his eyes." And that's exactly what it felt like being told you're poor without being ready for it. I had no idea--absolutely no inkling whatsoever--that I'd spent the last eight years in poverty.

I grew up in West Virginia, where the entire state looks like a national park. And I grew up playing barefoot in rich, old growth Appalachian forests. A feral child. Maybe growing up around such beauty, you believe you *are* rich. Danny's pejorative term, though, would be only the first inkling of what was to come. But I'll never forget that Danny started it in third grade. Third grade was a bad year. Third grade was the year I learned in school that I was poor.

THE "VORCE"

I remember in elementary school when Ricky walked past me in the hallway and hissed, "My mom says you're *divorced* and you don't have a father and that you're poor, white trash." I didn't know what "the vorce" was, but it sounded bad to me.

You learn in fourth grade West Virginia history that Mother's Day was founded in Grafton, West Virginia, on May 10, 1908 and Father's Day in Fairmont, West Virginia on July 5, 1908, but I learned in school that a father was simply one more thing that other children had that I didn't. And I learned fast that making Father's Day cards was awful. I made them silently, then obediently took them home and gave them to my bewildered mother.

Because of Ricky, I felt self-conscious about doing the family tree assignment. Everyone else's tree had beautiful, perfectly symmetrical limbs on it, a father limb and a mother limb. My fatherless tree only had a mother limb on one side and it looked like those pine trees on top of Pike's Peak, where the wind had whipped all the limbs onto one side. My tree wasn't whole.

It wasn't until I got to seventh grade and had to take shop class that I realized how important it was to have the prerequisite father. What did I know of hammers and tools and woodworking? I grew timid and unsure of myself in shop class. I made the smallest project you could choose, a little kitchen matchbook holder. No sturdy shelves or benches for me. I still have it to this very day, wrapped in my first-grade elf costume and tucked away in a box full of memories of school and being poor.

HAPPY HOLIDAYS

It seemed fun at first. We were all given the same material to make our Valentines' bags. White bags, pink and red hearts, ribbons and streamers and, of course, the elementary staple, glitter. After the giant globs of Elmer's Glue had dried, all of the bags looked pretty similar. I felt good about this holiday.

Mom bought me a pack of Valentines and I carefully read each one to be sure it went exactly to the right person. But the next day at school the joy became pain when I saw the beautiful cards and candies that some of the other classmates brought. It made me feel like Charlie Brown. Somehow everyone else knows you're poor. How is that? You feel so different, alone, ashamed and at a total loss about this "lack of."

Christmas was no better. I knew that our teacher would open her gifts in front

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role requires continuous input from business and industry.

With this in mind, over 80 business leaders who had a vision for what the future holds participated in a futuring panel that discussed what students would need to know and be able to do in order to meet the needs of an ever-changing agriculture industry. The futuring panel established that Agricultural Education programs needed to respond to industry trends in terms of growth, employment, and technological change. It was critical that these programs embody the expectations of what the workplace of tomorrow might demand of entrepreneurs and employees alike.

Technological advances and global competition have altered the environment of work. Vocations in today's and future industries require additional knowledge, 21st century skills, and further changeable resources than ever. Individuals must be prepared to modify careers several times - continually updating their knowledge and skills. Ohio's agricultural and environmental systems content standards used in local Agricultural Education programs provide the necessary framework to meet the demands of such a market. Consequently, high school graduates who have completed an Agricultural Education program graduate with a choice and are prepared to successfully pursue additional education to meet the requirements of many of the agriculture careers available to them, or to enter the work force while participating in the requisite training and/or certification programs required of their chosen occupation. Additionally, these graduates leave high school with a broader and more marketable set of skills than they have in the past, due in part to the agricultural and environmental systems content standards.

Ohio's Agricultural and Environmental Systems content standards <http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=1714&ContentID=55793&Content=57415> were developed collaboratively with the consultation of content and instructional experts. As a result, the agricultural and environmental systems content standards contain the body of knowledge that all students enrolled in a local Agricultural Education programs need to know and be able to do. The agricultural and environmental systems content standards are delivered through seven different programs areas: Animal Science and Management, Agribusiness and Production Systems, Agricultural and Industrial Equipment, Biotechnology, Food Science and Technology, Horticulture, and Natural Resources Management.

The development of industry-based content standards in Agricultural Education is only part of the evolution in curriculum development. The critical transition will come as we move from a performance-based instruction to standards-based instruction. For many, this transition is a paradigm shift with an embedded steep learning curve. While the limitations of this article do not provide room for the essential instruction manual, it does necessitate an explanation of the terminology most commonly used with academic content standards. The following items are used on the Ohio Department of Education's website to assist educators with this transition.

Academic Content Standards ...

are clearly defined statements and/or illustrations of what all students, teachers, schools and school districts are expected to know and be able to do. Educators generally discuss three types of standards:

Content Standards describe the *knowledge and skills* that students should attain, often called the "what" of "what students should know and be able to do." They indicate the ways of thinking, working, communicating, reasoning and investigating the important and enduring ideas, concepts, issues, dilemmas and knowledge essential to the discipline.

Performance Standards are concrete statements of how well students must learn *what* is set out in the content standards, often called the "be able to do" of "what students should know and be able to do." Performance standards specify "how good is good enough." They are the indicators of quality that specify how adept or competent a student demonstration must be.

Operating Standards describe the conditions for learning. These can include specific expectations and additional guidelines for school districts, communities, and families to use in creating the best learning conditions for meeting student needs and achieving state and local educational goals and objectives.

A **Benchmark** is the specific component of the knowledge or skill identified by an academic content, performance, or operational standard. It can be characterized as being declarative, procedural, or contextual in the type of knowledge it describes. Attainment is communicated through:

Performance Task, the construction of a response.

Performance Level, the

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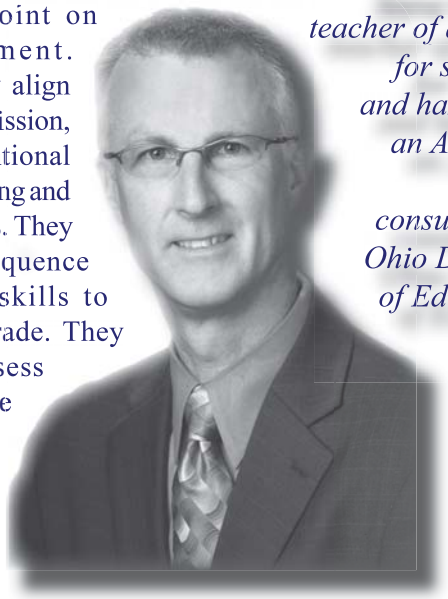
defined score point on formal assessment.

Courses of Study align with the local district mission, philosophy and educational goals, and specify learning and performance objectives. They establish a scope, sequence of knowledge, and skills to be taught grade-by-grade. They provide a way to assess student progress and the need for intervention.



***Steve Gratz** was a teacher of agriculture for seven years and has served as an Agricultural Education consultant at the Ohio Department of Education for 18 years.*

Curriculum is the way content is designed and delivered. It includes the structure, organization, balance, and presentation of expected or recommended study topics that address content standards and meet local expectations. A curriculum contains three primary elements: substance, purpose, and practice:

Substance communicates *what* should be taught. It is the field of instruction.

Purpose communicates *why* a topic should be taught. It is the context of instruction.

Practice communicates *how* a topic should be taught and learned. It is the methodology of instruction (including the methodology of collecting and using evidence of students' learning to inform and to adjust instruction).

A **Curriculum Model** recommends topics for study that reflect and are aligned with the adopted academic content and performance standards.

Standards-Based Education is an academic program in which clearly defined academic content, performance, and operating standards are aligned. A standards-based education spells out what educators,

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of everyone. How could my hand drawn picture of a snowman hold up against Crystal's store-bought sweater or the fancy bottle of perfume from Lois? Sometimes I would be "sick" on the day we had to bring our favorite holiday gift to school for show-and-tell. Besides the fact that I'd already eaten most of my little book of Lifesavers, I knew that the other boys would have robots that moved or race-car tracks. I couldn't compete. I may as well have stood up and said, "We're poor and a nice mand from church brings us candy."

At Halloween I wore overalls and a red plaid shirt with hay coming out of my shirt. A lifeless scarecrow of a child, I was no match for the beautiful costumes purchased at local stores.

Over and over and over again, holidays seemed an endless curriculum review of how I couldn't afford what the other children brought to school. My worst holiday memory by far, though, was Easter.

THE NOBLE PEACE EGG

"We're going to have an Easter egg decorating contest," declared my teacher. "They'll (sic) be prizes awarded for the best decorated egg." Only a third grader would think this the equivalent of The Nobel Peace Prize. I begged my mother for the 99-cent Easter egg coloring materials. I pulled a stool up to the stove and watched patiently as my egg boiled. You've got to be hard-boiled to win The Nobel Peace Prize.

I carefully studied my color options. It seemed to me that red, white and blue were my best choices. Like the flag, patriotic. I mixed the colors myself and then measured and penciled two lines that split my egg into thirds. I held the first third of the egg in the red dye with the little copper wire holder myself for what seemed like hours. Next, I held it until it dried. Then I turned the egg upside down and held a third of it in blue dye. This took an entire evening.

My egg was spectacular and I was thrilled to carry it proudly into my school the next day. And

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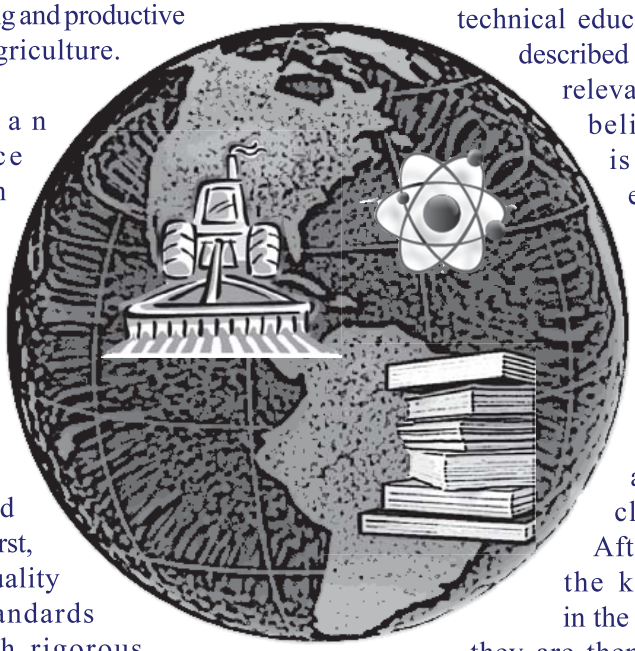
THEME ARTICLE

The Value of Quality Program Standards for Agriscience Education

By Belinda Chason & Karen Hutchison

Globalization has had and will continue to have a huge impact on the agriculture industry; an industry in which we hope our students will pursue employment. As agriscience educators, we have an obligation to ensure they are ready to enter this rapidly changing industry. Providing quality content standards as a guide for agriscience teachers is an important component in assuring rigorous and relevant classroom instruction that prepares our students for an exciting and productive career in agriculture.



How can agriscience education produce curious, passionate, and well prepared students? First, we need quality content standards from which rigorous and relevant curriculum can be developed. These standards and curriculum must include all three components of the agriscience education model. Classroom instruction is critical in providing students with an opportunity to learn by doing. The agriscience classroom must be one of contextual learning where students are provided a variety of learning experiences so they can make meaningful relationships between abstract ideas and practical applications. Having a laboratory component added to classroom instruction provides students an opportunity to make that connection. This also means agriscience educators should not only be aware of the changes in the agricultural industry, but be eager to learn as well as develop their instruction from quality content standards. Recently, our career and technical educators were described as "owning relevance." We believe there is no better example of this than our agriscience classrooms. After gaining the knowledge in the classroom, they are then expected to have a work-based learning experience or SAE, outside the classroom. Content standards should promote SAEs that encourage students to conduct research or analyze information to discover new knowledge (www.ffa.org), which is exactly what our students need to stay competitive. The FFA component provides an opportunity to assess how students are performing compared to other agriscience programs when the activities are included in the classroom instruction and provided to all students. What a great opportunity to show accountability.

Over the last several years, the need to address changes to the agriscience curriculum through the development of content standards became increasingly apparent. Previously, which courses were taught, what information was covered, how teachers were trained, and why students were enrolled in agriculture classes was often decided on a haphazard basis. The decisions were not always based on sound information. Even if the course title sounded relevant, the program objectives may have been based on outdated ideas. Often workshops were developed according to teacher interest or perceived need, not information validated by the business community. Too frequently students were enrolled in agriscience classes because they had no other class they were interested in were discipline problems in other casses, or thought the agriscience course would be an easy credit. The call for higher standards and quality content standards for all students offered an opportunity to re-focus our agriscience programs.

There are additional reasons for addressing changes to the agriscience curriculum through the use of content standards. A majority of students in agriscience programs no

longer live on farms nor do they plan to be directly involved in production agriculture, yet many agriscience programs continue operating as if the only opportunities for the students were still on the farm. In addition, quality content standards are needed to better prepare students for the rigorous college and university courses they will encounter if they choose to continue their education. The demand from the business community is for more highly educated employees, either directly out of high school or after a post-secondary experience. All of these factors pointed to the need to develop rigorous agriscience content standards and to assure implementation within our programs.

However, if the content standards are to be meaningful, a variety of people with varying interest in and knowledge of agriscience had to be involved and they must be dynamical. In the development of the Delaware and Florida standards, as well as the newly released national content standards, individuals from business, industry, secondary and post-secondary education, government, commodity groups, agriculture organizations were involved. An additional benefit we found during standard development was the addition of new partners who were willing to help with training activities, professional development, student projects, and classroom activities.

Many states have already developed their own agriscience content standards. If they have not or are working to revise current ones, the recently released "National Quality Content Standards for Agricultural Education" should serve as a guide to states when developing or revising agriscience program standards for the next generation of employees. The standards can be accessed online at the Team Ag Ed Learning Center, www.agedlearning.org, by following the links.

Quality content standards can also help students better understand the connection between agriscience education and the sciences, mathematics, social studies, English language arts, world languages, and the arts as standards crosswalks have shown. Our agriscience programs can provide the laboratory where students can apply the concepts taught in academic classes. With agriscience teachers and academic teachers working together, students should be more successful.

Our agriscience programs need to take advantage of the opportunity to expose thousands of students to the exciting world of sciences, research, and emerging technologies. As an agriscience educator it is rewarding to expose a student to our industry through an exciting unit, field trip or career awareness activity and have them say "I have found what I want to do with my life." More of our nation's students might want to enter the fields of science and engineering related to the agriculture industry if they were exposed to them in a meaningful way during their middle and high school years. Agriscience education can do that with the development and use of rigorous and relevant content standards.

Another valuable aspect of content standards is that they can help provide consistency across programs. Many of our students move between schools and districts. Imagine how much easier it would be if the concepts they had learned in their first level animal science class in one school was the same as the new school they moved into? Maybe the way it was taught or the animals used were different, but the over arching concepts were the same; think about how much easier it would be for our students.

Change is never easy but always necessary! Developing and using quality content standards is change that is necessary and will be educationally beneficial to the students we teach. Developing curriculum around quality content standards can, and in our states, has proven to be exciting to educators by exposing teachers to new and exciting information. We live and teach in exciting times; quality agriscience instruction, based on sound content standards could be just the catalyst to change a student's life!

Belinda Chason *served as the State FFA Executive Secretary for three years and a State Agriculture Specialist for four years in Florida. Since 1996 she has served as the State Supervisor of Agriscience Education in the Florida Department of Education and State FFA Advisor.*

Karen Hutchison *taught high school agriculture, in Delaware, for 13 years. Since 1992 she has served as the Education Associate for AgriScience and State FFA Advisor with the Delaware Department of Education.*

Content Standards--Positioning Agricultural Education as a Key Component of Education Reform

By Scott Stump

When my father signed his first teaching contract as the Agricultural Education Instructor for the Prairie Heights School Corporation in 1963, little did he know how quickly things would change! He was hired to train young boys into a skilled set of farmers to meet the needs of that small northern Indiana community. However, in that same year the Vocational Education Act of 1963 passed requiring all instructional programs be developed and evaluated based on manpower needs (employment opportunities.)

This led to one of the earliest, if not the first, set of National Standards and Competencies for Agricultural Education. The final document was released in 1978 under the title, "National Ag Occupations Competency Study." Its purpose was *"to identify the essential agricultural competencies needed for entry employment and advancement in the major agricultural and agribusiness occupations and to validate the importance of the competencies identified for each occupation by workers employed in that occupation."* Some of you veteran teachers might remember this as the thick book on your shelf with the yellow paper cover!

Once again, Agricultural Education was ahead of its time! The standards movement in education did not arrive until the late 1980s. Then in the late 90s and early 2000s it was propelled forward by the passage of the No Child Left Behind Act. In my opinion, the standards movement is not a fad that, if we wait long enough it will go away. This movement is here to stay and we need to take advantage of our standards-based experience to position Agriculture Education as a key component of any and all High School Reform. I believe we can accomplish this in a couple of ways. First, we pull our content standards off the shelf, dust them off and put them to work to validate the effectiveness of our programs. Then, we take advantage of the substantial crosswalking with academic standards that has been accomplished to position our programs as part of the solution!

Putting Our Content Standards to Work

Since the beginning of the 20th Century, our purpose in Agricultural Education has been simple – prepare a highly skilled and highly motivated agricultural workforce for our industry. To accomplish this we must know the target! For Agricultural Education to remain viable, our target must be a clearly identified set of knowledge and skills that

Student learns new technology while instructor observes the practice. Image courtesy University of Arizona Agricultural Education

have been validated by the employers who will be consuming our product!

The good news for all of us involved in the Ag Ed Community is that this work has already been done! The National Council for Agricultural Education just released the National Agriculture, Food and Natural Resources (AFNR) Career Cluster Content Standards that were developed to provide state agricultural education leaders and teachers with a forward-thinking guide for what students should know and be able to do through the study of agriculture. (Copies are available for download at https://aged.learn.com**)**

The National AFNR Career Cluster Content Standards have been through the business and industry validation process and are ready to be put to use in local programs. Their timing is perfect given the new requirements of federal legislation.

The Carl D. Perkins Act of 2006 added a new requirement that is causing many discussions in state Career and Technical Education offices across the country. It is also the primary reason that we, as a community of agricultural educators, need to pull our content standards off the shelf and put them to work. The Act requires states to collect performance data on the technical skill attainment of the students involved in CTE Programs. In short, the federal guidance requests the percentage of students who passed an industry-based certificate or licensure assessment.

While agriculture does have a variety of job specific industry certifications, an appropriate assessment does not exist for a number of the agricultural career paths. However, states to have the option to develop a state-approved assessment. These assessments have to be based on industry-validated standards!

That fact leads us back to the importance of the National ANFR Content Standards and/or each state's approved content standards for Agriculture, which will form the body of content for the assessments that will be developed over the next five years. If you want to have an influence on how your program's success will be measured in the future through technical assessments, dig in to the content standards.

Use Content Standards and Academic Crosswalks to Expand Your Influence

In my humble opinion, this is the area that will make or break our future! While we know that all students can benefit from an agricultural education experience, there are superintendents and principals out there that are focused, due to accountability requirements, on not just the benefit of agricultural education but the math, literacy, and science scores of each student.

In addition, according to the Stanford Bridge Project (March 2006), 63% of the students attending two-year institutions and 40% of those attending four-year institutions required remedial courses in math and/or English. Students are leaving high school, including those in our programs, not ready for the next step whether it is into the workforce or postsecondary education.

We in agricultural education can say that it is not our responsibility to ensure each students' math and literacy prowess; our job is preparing them for a career in agriculture; but the industry leaders I know expect their employees to be able to compute math problems and communicate in both written and oral form, in addition to demonstrating their technical agriculture skills. That makes it our responsibility!

This step is all about intentionality! I understand fully that you cannot teach the Pearson Square without involving math. However, I also know that the method can be taught and a balanced ration reached without a discussion of the mathematical process needed to reach the solution.

Many states have spent the past decade crosswalking their content standards to the academic content standards in their state. Instructors in my state of Colorado would refer to these crosswalks as the Tech Prep Guide, or more commonly the Green Binder on the shelf. The problem is that while many of them used it to defend the academic merits of their courses, most did not use it to influence instruction. That is the intentionality we need.

Almost three years ago, a cohort of Oklahoma and Oregon Agriculture Instructors participated in a Math in CTE Pilot Study for the National Research Center for Career and Technical Education. They were partnered with a math instructor in their school and spent a year collaborating on enriching the math content that naturally existed in their curriculum. They coordinated their language to match the math language, ie., pitch of a roof vs. slope of a line. They also used practice examples from the math instructor in conjunction with their agricultural examples. The result, increasing math proficiency for their students while preparing them for a successful career.

To get started, I recommend you invest the time reviewing the content standards of one of your courses with a math, science, and/or English teacher. Search for the opportunities where your rich and relevant content

can expand a student's application of that math, science, or English standard. (Note: the National ANFR Career Cluster Content Standards will make this process easier because they have already been crosswalked to National Academic Standards.) When you reach related content during the year, work with the related academic instructor to expand your lesson plan to include the vocabulary of the academic concept and practice examples that the student might also see in the academic classroom.

Ask your principal or superintendent, where are we falling behind on our assessments? Review your content standards and crosswalks, and find areas that you can help students grow and expand that in your courses and lessons.

If you do focus on your content standards and intentionally approach the classroom differently because of it, I guarantee you will raise some eyebrows. Your principal will wonder what you are up to and your superintendent might think you have sucked in too many paint fumes. But without question, focusing on content standards and their crosswalks, will position you and your program in the center of the school's education reform!

Scott Stump is Colorado's State Director of Career & Technical Education. Prior to assuming this role, Scott served as Program Director for Agricultural Education, FFA and Multi-Occupational Education. Scott taught at the secondary level at Manchester High School in North Central Indiana. Before coming to Colorado he also worked for the National FFA Organization managing the National Officer team and the National FFA Convention.

THEME ARTICLE

Keeping the Alabama AgriScience Fires Hot!

By Mickey Humphries & Sherry Key

Three years ago, Alabama's Agriscience program data revealed a troubling set of numbers that involved Agriscience students, and teachers. The number of FFA members and their participation in state leadership events were decreasing at an alarming rate. Only 35% of the program's students were joining FFA student organizations. We believe that the "face of what we do" is the student, so we decided to look further. Almost 45% of Alabama Agriscience teachers were eligible to retire; the schools of education had graduated fewer than 10 new teachers that year. Just as the number of frogs worldwide was disappearing, the number of students enrolling in Alabama Agriscience teacher education programs was also disappearing. Further research revealed that, just as with the frogs, there were many reasons for the decreases. "ALFA (Alabama Farmer's Federation) is a huge partner in Alabama's Agriscience Education arena; we made the decision to ask for their help, along with the National FFA, to solve the dilemma," said Ms. Sherry Key, Director of Career and Technical Education. "We could not solve this problem doing the same things we had been doing; we had to change; I felt the direction for change needed to come from those two organizations."

In March 2006, business partners, teachers, teacher educators, students, state staff, and other stake-holders statewide were convened by ALFA to write a strategic plan to reverse the data trends. The problem belonged to all of us; the solutions would come from all of us. Dr. Tony Small of National FFA provided the facilitator for what turned into a six-month "Team Ag Ed" initiative that resulted in a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis and four identified goals with multiple measurable supporting objectives, activities, and accountability and evaluation timelines:

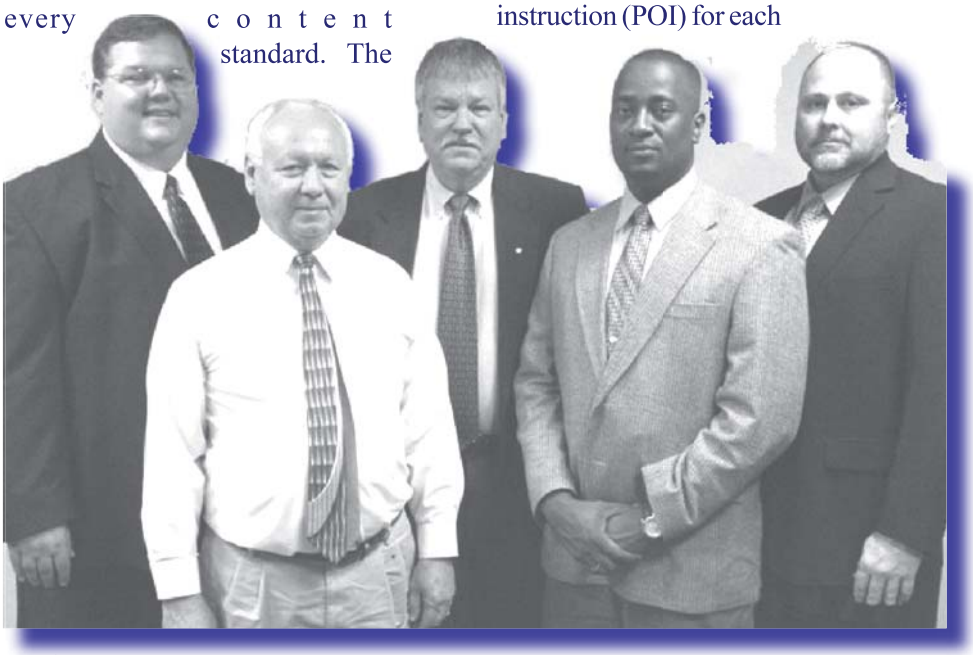
1. Increase partnerships for Agriscience Education in Alabama.
2. Increase the number of available quality secondary Agriscience teachers.
3. Increase Agriscience Education enrollment and FFA membership.
4. Increase Participation in FFA activities at the local and state level.

By the beginning of 2007, baselines were being collected, committees and special interest groups identified and combined, and objectives communicated and marketed to stakeholders. Although the "data" are still out, in one week the number of FFA members increased by over 1,500 students this year alone, and preliminary data sets are looking much better. Partners have set up scholarships in major teaching universities for teacher educators and additional state staff time has been allocated to work with the student organization.

The state Agriscience staff spent a year researching 21st century curricula options, evaluating other state curricula, and carefully identifying resources. They found that "world was indeed flat." In 2007, a new Career and Technical Education course of study was written by a curriculum committee consisting of teachers, teacher educators, and business and industry partners. The Agriscience committee took that opportunity to reinvent the existing curriculum to support the national career cluster initiative. Those men and women were assigned the task of writing the curriculum that would take Alabama's Agriscience education through 2013. It was a daunting task.

The committee began with the present course of study and with guidance from the State Department of Education's Classroom Instruction Section; this began the process of ensuring that the depth of knowledge (DOK) needed for students to be successful in a globally competitive society was included. The committee was also given the mandate of reducing the number of content standards. Our curriculum could no longer be an "inch deep and a mile wide." The "process specialists" provided the guidance to ensure that once a standard had been taught that it would not be repeated. We had to identify what would be taught and evaluated based on 21st century skill sets. For example, the foundation course, Agriscience, had 45 content standards with 12 headings or units. The section "Soil Science" alone had five content standards. This number of content standards made it almost impossible for a teacher to effectively cover each of the standards. To give flexibility, bullets were written under almost every content standard. The course of study guidelines state that content standards have to be mastered, bullets do not. The reasoning here is bullets add to the standard and should emphasize the importance of the standard, thus supporting it with additional content. The "Soil Science" section in the new course of study has one content standard with five bullets. The content standard states, "Identifying major soil areas in Alabama." The bullets are as follows: identifying layers of soil in a soil profile, determining the texture of various soil samples, determining the land capability class for a given plot of land, and explaining how to adjust soil pH." Months of gap analysis, "word-smithing," and rearranging provided not only the content but the depth needed.

The course of study was approved by the State Board of Education in February 2008 for voluntary implementation in the fall of 2008 and mandatory implementation beginning with the 2009-2010 school year. The next phase includes the writing of plans of instruction (POI) for each



Left to right: Jacob Davis (State FFA Exec. Secretary), Bobby Thomas (Ag State Staff), Mickey Humphries (State Supervisor of Agriscience & FFA Advisor), Petro Johnson (Ag State Staff), & Philip Paramore (State Staff)

course. For each heading or unit, POI are being written. Thus, the foundation course, Agriscience, has 12 headings or units and it has 12 POI. Each POI is being written by teachers with input from business partners and contains the related content standard(s), learning objective(s), essential knowledge, unit assessment, unit course/CTSO activity, unit/course culminating product, and appropriate course/program credential(s). Probably the most exciting culmination for this work will be the spring 2009 cross-walk for substitute and embedded academic, postsecondary articulated, and substitute credit.

Committees will be formed during the spring of 2009 to begin the process of writing project based learning activities and lesson plans that focus on academic integration for the ALEX (Alabama Learning Exchange located at http://alex.state.al.us/index.php. We are in the process of developing two online courses for each career and technical education cluster to be delivered via Alabama's distance learning Web portal ACCESS (Alabama Connecting Classrooms Education and Students Statewide located at http://accessdl.state.al.us/). The Alabama Career and Technical Education Courses of Study can be accessed under the heading of "More Special Links - Courses of Study Draft" from the http://www.alsde.edu website.

About 10 years ago, a committee of educators and business/industry representatives was put together to identify the needs of business/industry and how career and technical education programs could meet those needs. Although there was much debate, the committee concluded that in order to meet the standards of business/industry, the teacher must have appropriate facilities, equipment, materials, and curricula. It became apparent that the quality of career and technical education programs around the state varied considerably. The committee result was to "raise the bar." After a great deal of research and discussion, the standards and quality factors for business/industry certification (BIC) were developed that included business/industry and peer reviews. These standards are available on the state web site under the career and technical education section.

This BIC process makes a strong statement that the Alabama State Department of Education (SDE) is committed to preparing students to enter the workforce with the skills required by business and industry. BIC was also designed to "level the playing field" so students throughout the state could participate in quality career and technical education programs. Since 2003, the SDE has been awarded certification from the International Organization for Standardization (ISO 9001-2000) for the BIC process. State and federal funding is withheld for programs that do not meet the rigorous standards of the process.

Mickey Humphries is an Agriscience Education Administrator and Supervisor for Agricultural Education Sherry Key is a Career and Technical Education Director in Alabama.

Photos not available.

Inclusive thoughts...

This issue's Inclusion Corner brings insight into one man's educational experiences. Vivid memories of countless thoughtless actions and activities sewed seeds of frustration, humiliation and self-doubt. The overcame many of these handicaps, but how many students with similar expe-rieces are able to do the same?

WHAT ARE YOU DOING TO MAKE ALL YOUR STUDENTS FEEL CONFIDENT AND HOPE-FULL OF THEIR FUTURES?

Think about it!
Billye

STANDARDS--Program, Content or Both:
How will this affect Agricultural Education Practice?

By Mike Womochil

Now that is a question for the profession! Will our current efforts with program and content standards make a difference? Will the funding spent on development of standards at state and national levels impact the education of agricultural education students sitting in classrooms across the nation? Will we look back in ten years and see this as a tipping point in the quality and growth of agricultural education programs across the country, or will we view this work as just another "flash in the pan" effort that we've seen too often in the past? I doubt if anyone, regardless of pay grade, knows the answers to these questions. What we do know is that we now have, for the first time ever, national standards at the program and content level for agricultural education. The impact of these two documents will be determined, not by national leaders and staff, but by state staff and local teachers. *If we do nothing to implement or merge national standards with our state documents or encourage our teachers to utilize them in local program planning, then, these too will become items of the "ag ed trivial pursuit / remember when game" that we so often play in our meetings and conferences.*

We hold the key to the success of program and content standards and control whether they are implemented or not. So, as a former Local Program Success Specialist for National FFA, new State Program Director for Agriculture, and most importantly, a 27-year-veteran of the agriculture classroom, I offer my perspective on why and how National Quality Program Standards (NQPS) could be addressed at the state level.

We have read and heard many times, over the past year, about the structure of the NQPS documents. Designed around the seven keys of local program success, containing 10 standard statements with 80 quality indicators, this document provides the expectation for the structure of quality agricultural education programs. Written in a format that provides the opportunity to score the local program at one of five levels of performance for each of the 80 standards, this tool is the most comprehensive listing of program expectations ever created at the national level. It has the potential to raise the quality of programs across the nation, if used properly. Implemented improperly, it could result in creating more problems than it solves. Place a 65 page document in front of a teacher who is already feeling overwhelmed by his/her job, and the result could be disastrous. We observed this in real life last year in a workshop at the NAAE national convention. After a 50-minute presentation about NQPS, in which participants completed just two of the 10 standard statements, a veteran teacher who is respected in his state for his program quality and teaching ability, told us the process made him feel like a failure. That is not the way to start program improvement. It's understood that we need to increase our teachers' awareness of the total program and the components required to accomplish it. What we don't want to do in the process is increase their anxiety level and push them toward leaving the profession.

Colorado is involved with a pilot project provided by the National Council & LPS staff to implement NQPS and will be taking the process state-wide in January. Our implementation will duplicate the steps utilized by LPS with the five initial pilot schools. Key to the process is an awareness that local program improvement is not the sole responsibility of the teacher. ***Because of this we will not allow our teachers to go through the NQPS improvement tool process by themselves***. Discussion of the process and the content of the standards document will happen at our winter agriculture teacher meetings. This will provide our teachers with awareness and better understanding of the how's and why's of the NQPS improvement process. The actual scoring of their program on the quality indicators will happen at regional meetings where the teacher, administrator, and local advisory committee chairman work as a team to fill the document out. This step is critical to the success of the project. ***We believe involving the administration and advisory committee in the initial program scoring greatly enhances the opportunity for success***. Local program quality is determined by the dedication and desire of the teacher and the support provided by the advisory council and administration. Having the two key support parties involved in the initial scoring process increases their knowledge of what a quality agricultural program is. It also

causes them to realize that, if their program is to meet the expectations set forth by the quality indicators, they are going to have to play an active roll. At the same time the administration and advisory committee participants are gaining awareness of a quality program, the teacher is realizing that he or she is not alone in the process. This provides both support to the teacher as well as increasing their accountability to carry out the improvement plan.

At the completion of the scoring, each program will identify two standards that they will focus their efforts on. This ensures the program improvement is targeted on those standard areas that the team feels is most critical, thus keeping the teacher from trying to undertake efforts to improve scores in all ten standard areas. An important message to convey to the local improvement teams is that they do not have to strive for a program that is scored exemplary on every quality indicator. Tempering the competitive spirit of the agriculture teacher to accept a mix of 4's & 5's and even a few 3's on the score, provides an environment that will maintain a reasonable expectation on the teachers workload. A NASCAR car is impressive running at over 9000 RPM, but after each race it is completely dismantled and rebuilt. This isn't feasible with our teaching force.

The focus of professional development presented at our summer institute and future winter conferences will be determined by the areas selected by the local improvement teams. The content delivered will deal with techniques and procedures to implement improvement plans in the critical areas of need. We will also address the need to step back in some areas where the program is achieving above the standard. Time is a critical commodity in a teacher's life and, if we are asking him/her to increase commitment in areas needing improvement, then we need to help him/her identify ways to buy back their time from other areas. This might be elimination of non-essential activities or development of partnerships with others to assume these time commitments.

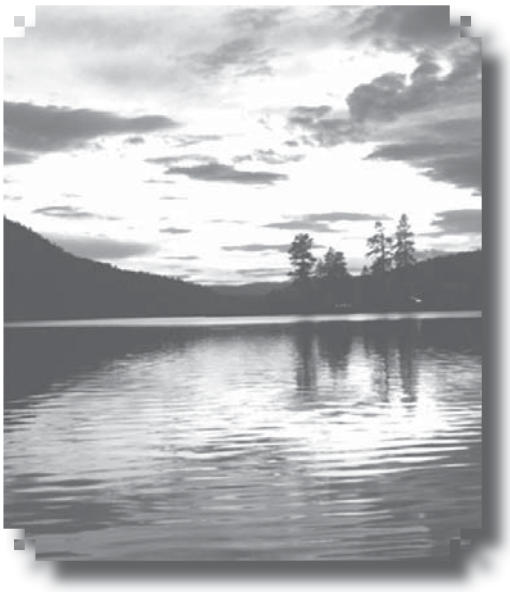
The utilization of the NQPS document in Colorado does not mean we are adopting them as our state program standards. There are components of the NQPS that are near identical to our current state adopted standards. There are also areas that our standards are more specific or unique to our programs. Prior to the initiation of the process we will be compiling an addendum to the NQPS that will include those standards unique to Colorado. This will allow the improvement teams to view both documents as a part of the process.

The intent of our plan is not to conduct a program approval process, but to work with our teachers and programs in an improvement process. The majority of our teachers understand the delivery model of agricultural education and are aware of the components necessary to build a quality program. This process asks them to take a step back from the daily grind and work with key partners to do a "big picture" view of where the program stands. To accomplish this, we are adopting the "Ten Commandments of NQPS" that were presented at the conclusion of the conference for the schools involved in the national pilot project.

1. Call it an improvement tool, not an evaluation or assessment.
2. Do not use it as a hammer.
3. Use as a tool to develop partnerships with administrators.
4. Use as a tool to develop partnerships with the community.
5. Use it to show teachers the 7 keys of local program success.
6. Use it to provide teachers with the opportunity to balance their program.
7. Use it to focus the teachers' efforts in the 7 keys.
8. Use it to create awareness of the total agricultural education program.
9. Use it to promote agricultural education in the school.
10. Use it as a carrot for convincing decision makers that improvements are needed.

It has been said that the best method of obtaining growth in agricultural education is to ensure we have 7500 quality programs in place. This will stimulate the development of new programs. If this is true, then the National Quality Programs Standards are an excellent tool to start moving toward that goal.

***Michael Womochil** taught high school agricultural education in Kansas for 27 years. He served three years as Western Region Representative on the Local Program Success team with National FFA before assuming duties this August as Program Director Agriculture, Natural Resources & Energy with the Colorado Community College System.*



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that's when I saw the other eggs. Danny's egg was dressed exactly like Abraham Lincoln. It had a top hat and a black jacket with a white shirt and stiff paper collar. Its face was painted like a china doll and it had real hair that had been liberated from a curly-haired sister for a beard and moustache. It had its own little stand. It looked like presidential.

I could feel my panic rising. Maybe I had misunderstood the assignment. Even my third-grade mind could tell that parents had helpd this Lincoln get elected. I felt immense shame about my red, white and blue egg. And then I noticed my classmates' response to my sad homemade flag. It was pity, pure and simple. It's the first time I remember feeling shame. After school that day, I threw my red, white and blue egg into a field on the way home and busted it.

SCHOOL PHOTOGRAPHS

The older you get, the worse it is. In high school the Pences drove a beautiful little yellow Volkswagon to school. They passed me as I walked to school. Both ways. Going and coming. The teenage years are about the right clothes and fitting in and I had hand-me-downs and felt awakward.

I remember wearing my older brother David's suit for my senior pictures. It hung on me like a droopy Halloween king-sized ghost sheet. It was obvious it was a borrowed suit of clothing. The shirt collar hung around my neck like a necklace. I felt like a seven-year-old, playing dress-up in the attic with a box of clothes that had been my Dad's.

Even in the classroom, I couldn't get away from the sting of high school poverty. In History when we learned about the Great Depression and the Dust Bowl, a rich student named David started calling me "Dust Bowl" as a nickname. High school algebra taught me that some people are "greater than" and others are "less than."

I didn't have the cultural capital to know where to take a date for dinner before the senior prom. The only restuarant I'd ever been to was McDonald's. In my small town, The Point of View was the fancy restaurant to go to for senior prom. Up on a hill, it overlooked the Ohio River and historical Blennerhasett Island and mansion. It was supposed to be beautiful. That's what I'd heard, anyway. I took my date, Michelle, to Shoney's, mistakenly thinking it was a high-end restuarant. What did I know of high-end restaurants? At Shoney's you had to sit down and a waiter came to your table and served you. I was so nervous that the $5.99 fried shrimp plate was wasted on me.

MORE IS CAUGHT THAN TAUGHT

Imagine my surprise one day to be standing in front of a classroom of students as their teacher, returning to the scene of the crime. Over and over and over again in school I had been cued both verbally and non-verbally that I was poor. I wasn't good enough, I didn't have enough and what I had was the wrong thing. School projects, holidays, extracurricular activities and field trips would send a surge of panic through our house because they were yet another expense.

There are other curricula besides the one being verbalized. There are the ones in the hallways with snide remarks from peers, on the playground with put-downs learned from parents and in the celebration of holidays at school that can completely panic a happy family. More is caught than is taught.

Wondering what this story means? Why is it in this issue?

Find the answers on page 25!

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