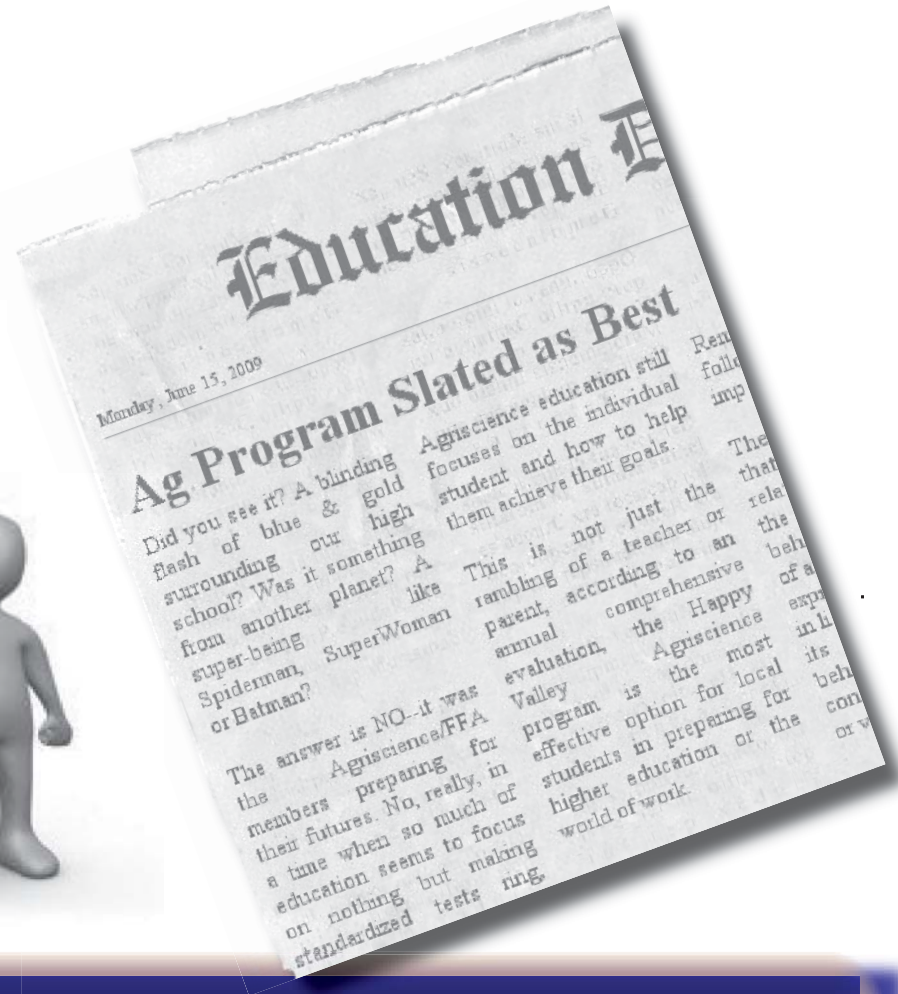


The Agricultural EDUCATION

M A G A Z I N E

**MAKE IT
HAPPEN!**



**Comprehensive
Program Design--
Does This Really Work??**

Planning, Evaluating, Ugh!!

By Billye Foster

Planning... how utterly boring — how dull, *how absolutely essential!* To the people that work with me on a regular basis, I'm known as "Dr. Jump the Gun!" I detest having to sit down and actually plan something out—I'd much prefer to just shoot from the hip (which usually causes endless stress and challenges). I often wonder how I ever ended up in education—let alone in a field that thrives on the concept of planning.

Bill Gates said, "Humanity's greatest advances are not in its discoveries—but in how those discoveries are applied to reduce inequity. Whether through democracy, strong public education, quality health care, or broad economic opportunity—reducing inequity is the highest human achievement."

I know, I know, he wasn't talking about program planning. HOW-

EVER, there are a lot of similarities when we think about inequity. Education is a tough field. It is political and often decisions are based on the popularity of a program rather than the effectiveness of a program. For years educators involved with agricultural education have competed against not only other career and technical fields, but also athletics and fine arts for their piece of the financial pie. That's where comprehensive program planning steps in and helps level the playing field.

Comprehensive program planning (CPP) gives us a valid tool that says, "We are doing great things—and here is the proof!" Even someone who hates to plan can see the value of that...

Fortunately you do not have to rely solely on my opinions—in fact, we have a magazine full of viewpoints combined with data to share. I encourage you to take time to read these articles and consider how CPP fits into your professional program.

My challenge to you this summer is to take stock in the advice and solid data shared in this issue. Look at your program, involve advisory members, community members, administrators and students--develop a CPP that will work for you. Don't look at the process as a "Big Brother" take-over. Instead embrace it as a key to the future. Then if you have any time left, check out the General Interest Articles in this issue. Through these articles you will see more concrete tools and information to use in the classroom, or simply increase your own professional network.

All work and no play makes Jill a dull girl! With that in mind, along with improving your program and professional self, take time to enjoy a few sunsets and make the summer count. We live in a time of change. In order to be ready to glean the most of every opportunity, we must take time to rejuvenate. Clean out the cobwebs in your closet and your mind and be ready for another year of molding the future. No one holds sway over what comes tomorrow like a passionate and effective educator!

"Who dares to teach, must never cease to learn."

***~~Joseph Cotton Dana
1856-1929***

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



Theme:

Comprehensive Program Design--
Does This Really Work?

Editorial:

Planning, Evaluating, Ugh!!.....2
By Billye Foster, Editor

Theme Editor Comments:

Yes, It Really Works!.....4
By Alvin Larke, Jr.

Theme Articles:

Comprehensive Program Evaluation--Does it really work?5
By Wash A. Jones

For Program Evaluation, You Best Dance with
 Them That Brung ya.....7
By Robert Terry, Jr.

Comprehensive Evaluation--Finding a Fit.....10
By Kristen Baker & B. Allen Talbert

A Framework for Comprehensive Program Evaluation.....11
By Rama Radhakrishna & Patreese Ingram

General Interest Articles:

Rural Background No Obstacle to Academic Careers
 in Science17
By W. R. Klemm & Britta Moore

The Internet-Telephone Interview as a Classroom
 Teaching Tool.....22
By Don Lotter

Communities of Practice--NAAE's Place for
 Sharing24
By Julia M. Fritsch

Volunteers: An Under Utilized Resource.....26
By Brenda Seevers

Informational Items:

Inclusion Corner16
By Billye Foster

Subscriptions

Subscription price for *The Agricultural Education Magazine* is \$15.00 per year. Foreign subscriptions are \$25.00 (U.S. currency) per year for surface mail, and \$40 (U.S. currency) foreign airmail (except Canada). Orders must be for one year or longer. We can accept up to a three year subscription. Refunds are not available. Please allow 4 - 6 weeks delivery of first magazine. Claims for missing issues cannot be honored after three months from date of publication, six months for foreign subscriptions. Single copies and back issues less than 10 years old are available at \$5 each (\$10.00 foreign mail). All back issues are available on microfilm from UMI University Microfilms, 300 North Zeeb Road, Ann Arbor, MI 48106. UMI University Microfilms telephone number is (313) 761-4700. In submitting a subscription, designate new or renewal and provide mailing address including ZIP code. Send all subscriptions and requests for hard copy back issues to the Business Manager: Jay Jackman, National Association of Agricultural Educators (NAAE) 300 Garrigus Building, 325 Cooper Drive, The University of Kentucky, Lexington, Kentucky 40546-0215, Phone: (859) 257-2224, FAX: (859) 323-3919. E-mail: NAAE@uky.edu

Article Submission

Articles and photographs should be submitted to the editor or theme editors. Items to be considered for publication should be submitted at least 90 days prior to the date of the issue intended for the article or photograph. All submissions will be acknowledged by the Editor. No items are returned unless accompanied by a written request. Articles should be typed double-spaced, and include information about the author(s). One hard copy and one electronic copy of the article should be submitted. A recent, hardcopy photograph should accompany the article unless one is on file with the editor. Articles in the magazine may be reproduced without permission but should be acknowledged.

Editor

Dr. Billye Foster, Professor, Department of Agricultural Education, The University of Arizona, PO Box 210036-Forbes 228, 1140 East South Campus Drive, Tucson, Arizona, Phone (520) 621-1523, FAX: (520) 621-9889.

E-mail: billye@ag.arizona.edu

Publication Information

The *Agricultural Education Magazine* (ISSN 0732-4677), published bi-monthly, is the professional journal of agricultural education. The journal is published by The *Agricultural Education Magazine, Inc.* at 300 Garrigus Building, The University of Kentucky, Lexington, Kentucky 40546-0215.

Periodicals Postage Paid at Lexington, Kentucky and at additional mailing offices.

POSTMASTER: Send address changes to The *Agricultural Education Magazine*, attn: Jay Jackman, 300 Garrigus Building, The University of Kentucky, Lexington, Kentucky 40546-0215. Phone: (859) 257-2224, FAX: (859) 323-3919.

Yes, It Really Works!

By Alvin Larke, Jr.

How would we ever know if we are heading in the right direction? How would we ever be able to assess our strengths and weaknesses? Research has been conducted and, clearly, we must evaluate our programs on a regular basis. Evaluating is the key to planning effectively and carrying out our perceived agendas.

In all areas of education, we seek to determine whether our program is working well -- are students learning? This is measured easily by the outcomes, and, in education, we measure much of our success in the form of tests or examinations. To assess early, some of us use pre-tests to determine where our students are and the direction we, as educators, should pursue. The same holds true for a comprehensive program.

Through comprehensive program evaluation, we are able to focus carefully on desired outcomes, establish benchmarks and carefully monitor the success and direction our programs are heading. We also are able to determine what the needs are and change in the aspects that we need to change.

As a "seasoned educator," I am convinced that Comprehensive Program Evaluation really works and the writers of the various articles support the need for the continuation of this. The various backgrounds are quite impressive and the tenure ranges significantly. I trust that you will agree that, **Yes, It Really Works!**



Photo Courtesy of University of Arizona



Alvin Larke is a Professor in the Department of Agricultural Leadership, Education and Communication at Texas A & M University. His professional interests include: Teacher Education; Mentoring to Youth; Academic Advising; Diversity and Sensitivity; Recruitment and Retention of Underrepresented Groups in Agriculture.

Comprehensive Program Evaluation-- *Does it really work?*

By Wash A. Jones

In our professions, we utilize a tremendous number of programs, activities and initiatives, but not nearly enough evaluation – often because of a lack of true knowledge regarding how to conduct effective evaluation. Often, our evaluation is limited in scope and effectiveness. Is this plethora of activity really making a positive difference and does it really matter? Should we be doing things differently or should we be doing different things? Who really should determine if we are successful or excellent?

One cliché says, “He who makes the game makes the rules”; another says, “He who has the gold makes the rules.” Both of these clichés suggest exclusion and the “rules” to define excellence may end up being biased toward the limited number of individuals who made the game or made the rules. I suggest here that exclusion certainly may cause some serious disadvantages or limitations in how “our games” are played and how they are judged or evaluated.

Comprehensive program evaluation – does it really work?

I teach an undergraduate course wherein students learn how to conduct a SWOT analysis. Those familiar with this assessment understand that SWOT assesses the **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats of a particular entity, program, etc. Although many of my students initially approach this topic with anguish and fear, they

gain a great deal of appreciation for it once they understand it and have the opportunity to apply it in practical situations. They particularly see the value in it when they have the opportunity to assess aspects of their own institution and envision how they, as students, might have

and evaluation to individuals in specific roles (usually those in authority) and excluding certain other individuals who might provide valuable feedback. Students (or other stakeholders at any level), for instance, can make a vital impact in program



the opportunity to effect change around them.

Photo Courtesy of University of Arizona

One valuable aspect of SWOT application is that is encouraged to be as comprehensive as possible to achieve the greatest benefit from the assessment. Allowing input from diverse levels, clientele or stakeholders promotes the possibility of providing a more accurate picture of what needs to be done to achieve excellence. One major error many entities may make is limiting program assessment

evaluation, and their input should be sought and included in the decision-making process.

As a side note, I share this story...

Shortly after learning about SWOT in my class, one of my students attended a national conference in another state wherein she participated in a group exercise

involving students from around the country. Incidentally, my student was the only undergraduate student in her group, and, initially, she felt intimidated by all of the perceived knowledge around her. However, she soon became the unofficial group leader when she suggested that the group should consider conducting a SWOT to address the task at hand. Incidentally, she was the only one in the group familiar with the SWOT analysis concept. So not only was her personal knowledge a great source of inner pride, her group was able to accomplish excellence utilizing the SWOT approach. As this student's group members gained some valuable information through participation in a SWOT exercise, entities at all levels stand to gain valuable information which ultimately could enhance the overall organization.

Consider the following hypothetical SWOT: a **S**trength of a program might be the fact that the leaders promote inclusiveness among its stakeholders in terms of allowing them input; a **W**eakness of a program might be the fact that stakeholders at all levels are not sought for input regarding program evaluation; an **O**pportunity could be the potential benefits of including those stakeholders who traditionally might be considered "outsiders"; a **T**hreat could be other similar entities which already promote an extensive degree of inclusion as all levels and are achieving excellence because of this specific approach. So using this somewhat simplified SWOT analogy, yes, comprehensive program evaluation really does work?

We constantly must be cognizant of who is included in our program evaluation and who determines if we are successful and if we achieve excellence. Who says we are number one? And by what standards are we

evaluated? Are those involved in our program evaluations inclusive enough? Are our evaluators "he who has the gold" or "he who makes the game"? These questions should be continuously considered.

Using another cliché, I tend to agree that "too many cooks may spoil the broth." But, as "educated cooks," with world-class educations, we should possess the knowledge,

We constantly must be cognizant of who is included in our program evaluation and who determines if we are successful, and if we achieve excellence.

wisdom, vision and insight to make the best decisions collectively regarding what ingredients (input) from the "diverse cooks" make the best broth. After all, an educated person doesn't mean that one necessarily is smarter, but that one has experience and ability to gather information, process it analyze it and reach a valid or plausible conclusion.

I believe that comprehensive program evaluation allows us, as educated individuals, to do just that – gather extensive information from diverse stakeholders, process

it, analyze it and reach a plausible conclusion that has the potential to enhance program excellence.

Comprehensive program evaluation – does it really work? At the top of one of my course syllabi is the proverb, "He who fails to plan, plans to fail." I believe that if we fail to plan for vast inclusiveness in our program evaluation, we ultimately plan to fail in our program. Without pinpointing any specific entities, consider the success (or lack thereof) of programs around the nation that failed to be comprehensive in their evaluation. They ultimately achieved a limited viewpoint of their success and failed to reach their potential success or level of excellence.

I end this with a resounding, **"YES."** Comprehensive program evaluation really does work!!



Wash A. Jones is an assistant professor of Agriculture at Prairie View A & M University. His professional interests include agricultural communication and agricultural education.

For Program Evaluation, You Best Dance with Them That Brung Ya!

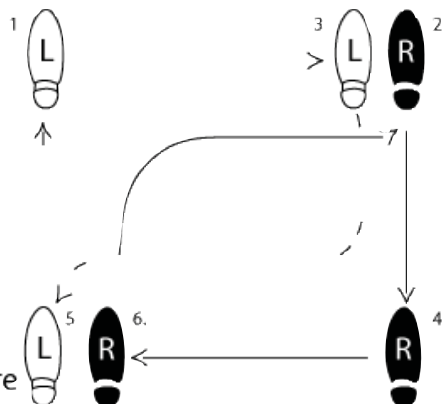
By Robert Terry, Jr.

Most anyone who grew up in the South or in rural areas of America is familiar with the saying, *dance with them that brung ya*, or some derivative thereof. The old saying, often credited to former University of Texas football coach Darrell Royal, actually has roots that go far beyond the man for whom the Longhorn's stadium is named. According to a website dedicated to sayings from and about Texas (Popik, 2006), the phrase was the title of a popular song from the 1920s. The saying has also been used in modern songs, book titles, and newspaper articles. Regardless of the exact wording or application, the phrase clearly communicates the value and need to be loyal to those who helped a person or group reach their current status. This axiom should be remembered as we consider the comprehensive evaluation of school based agricultural education programs.

There is consensus that educational programs should be regularly evaluated. In fact, federal and state legislation mandates that schools and their various programs be evaluated and compared to a specified set of standards or performance expectations. Opinions vary, however, regarding how evaluations should be conducted and by whom they

should be administered. So, *who is the best partner for school-based agricultural education when doing the program evaluation dance?*

As a part of the 10X15 initiative, National Quality Program Standards (NQPS) for Agricultural Education recently waltzed onto the dance floor (Team Ag Ed, n.d.). These standards are intended to be a measure of quality for existing programs and a foundation for new programs. Several articles in this issue of *The Agricultural Education Magazine* espouse the merits of this newly unveiled tool, so they will not be reiterated here. If all agricultural education programs in all states, in all communities, and in all secondary schools are to fit the same mold, the NQPS provides an admirable standard for which to strive. In addition,



September/
October 2009

Theme Editor:

Kimberly Bellah
Assistant Professor

Department of Agricultural
Services & Development
Tarleton State University
Box T-0040
Stephenville, Texas 76457

bellah@tarleton.edu

Promotional Branding: Agricultural Education Branding Strategies That Work!

**This issues includes the 2010 themes.

the NQPS will certainly allow agricultural educators to assess for the first time relationships between curriculum taught in high school agricultural education programs and standards for other academic areas.

For some time, several states have done *the Macarana* with a system of evaluation designed specifically for agricultural education program improvement. Such evaluations are typically based upon a set of standards or criteria adopted by

state education officials and/or professional associations. An excellent example of this type of state based agricultural education program evaluation is the system currently used in Missouri. The *Standards and Quality Indicators for Agriculture Program Improvement* (Department of Elementary and Secondary Education, n.d.) were developed by the Missouri Agricultural Education Joint Staff, a body composed of Agricultural Education officials from the Department of Elementary and Secondary Education (DESE), all agriculture teacher educators in the state, and representatives of the executive committee of the Missouri Vocational Agriculture Teachers Association (MVATA). For each of the 13 standards, there is a set of quality indicators. In turn, each quality indicator has a rating scale with the expectation that some specified indicators be achieved in order to meet the standard. In theory, if a program meets these standards, students will have a quality experience consistent with the best programs in the state.

The other potential partner with whom agriculture programs should consider doing the *evaluation two-step* is the local community. Generations of agriculture teachers have been counseled to customize their teaching, supervising and advising to fit the community. In the first edition of the Handbook



Sketch Courtesy of University of Arizona

on Teaching Vocational Agriculture, Glen Cook (1933) advised agriculture teachers to be flexible and adaptable enough to address the conditions of the local situation. Placing greatest emphasis upon the needs and expectations of the people who have the greatest stake is the most logical pathway to a successful program. After all, it is the local taxpayers, property owners, and businesses that provide the greatest proportion of the funding and other support necessary to have an agricultural education program. With that investment, they have purchased the right to influence what should be emphasized in the agricultural education program and how quality is to be measured. Further, the local

community provides the context for the agricultural education program with the uniqueness of the agriculture and natural resources found in the area. Such factors have a great impact upon the curriculum to be taught, experiential learning opportunities for students, and FFA activities to be emphasized. No doubt, outside perspectives are valuable and officials from beyond the community should be brought in periodically to assess the program using national or state criteria. However, local folks – school administrators, support groups, parents and students – are in a position to evaluate the program based on their needs and expectations every day.

Another consideration concerning program evaluation that cannot be denied is the fact that neither national nor state standards have any *real* consequences for the local program. So what if a program fails to meet one or more of the national standards? There was a time when state supervisors made onsite visits to local vocational agriculture programs, with evaluation instruments in hand, to determine if the teacher, classes, projects and FFA chapter made the grade. If they found a program to be below standard, these state supervisors had the power to pressure or even penalize the school until improvements were made. Those days are long gone. On the other hand, if an agricultural education program fails to meet the expectations of local stakeholders, consequences will certainly be exacted upon the teacher and/or the program.

One advantage national and state

systems provide for program evaluation is their structure. Such systems are designed with standards, evaluation processes, and expert evaluators. They offer the exacting steps of a technically correct tango. On the other hand, without similar structures in place, program evaluation based on local input can leave the ag teachers feeling like they were caught in a mosh pit at a heavy metal concert. So, how can locally based, comprehensive program evaluation work? The answer to this question is to make it a primary activity of the agricultural education advisory council. Chapter 5 of the *Handbook on Agricultural Education in Public Schools* (Phipps, Osborne, Dyer & Ball, 2008) lists 13 functions of an advisory council. Most of the items included in that list are related to program evaluation. If the advisory council is properly organized and charged, it can provide the structure and expertise necessary to conduct valuable evaluations that will lead to comprehensive program improvement.

While meeting national and state program standards might provide some agricultural education programs the status of earning perfects 10s on *Dancing with the Stars*, in reality such evaluations hold little relevance in comparison to meeting the expectations and desires of the local community. So, when it comes to comprehensive program evaluation for agricultural education programs, it's most important to remember to dance with them that bring ya – your local stakeholders!

References:

Cook, G. C. (1933). *Handbook on teaching vocational agriculture* (1st ed.). Danville, IL: Interstate.

Department of Elementary and Secondary Education. (n.d.). *Standards and Quality Indicators for Agriculture Program Improvement*. Retrieved April 7, 2009, from Agricultural Education, http://dese.mo.gov/divcareered/ag_program_standards.htm.

Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools*. Clifton Park NY: Thompson-Delmar Learning.

Popik, B. (2006, December 7). *Dance with the one who bring ya*. Retrieved April 7, 2009, from The lone star state, http://www.barrypopik.com/index.php/texas/entry/dance_with_the_one_who_brunge_you_darrell_royal/.

Team Ag Ed. (n.d.) *News Archive*. Retrieved April 7, 2009 from 10 x 15 – The long range goal for agricultural education, <http://www.ffa.org/teamaged/10x15/media.html>



Robert (Rob) Terry, Jr. serves as professor and chair for the Department of Agricultural Education at the University of Missouri.

**C
O
M
I
N
G
S
O
N
N
!**

**2010
THEMES
FROM A NEW
EDITOR!!!**

Comprehensive Evaluation--Finding A Fit

By Kristen Baker & B. Allen Talbert

Accountability, No Child Left Behind, and ensuring learner success are talked about daily in regard to education and are charges given to agricultural education programs today. Each implies that all parts of an agricultural education program must be evaluated. But against what are we evaluating – the 1920s model or something yet to be fully defined for the 21st century?

The program, in which the lead author teaches, is currently in its fifth year of existence. The program began with two teachers and 151 students and has now grown to four teachers and 516 students. Classes are taught at both the middle and high school levels and are housed in two separate buildings that are within walking distance of one another. As the Agricultural Science and Business department within Lebanon High School started to take shape, everyone had one common goal in mind, to make the classroom a priority. Over time as growth has occurred, this goal has remained the same. As the team of teachers expanded, each individual was selected based upon the need they could help fulfill within the program and the qualities they brought to the table.

The traditional Agricultural Education Model (Phipps, Osborne, Dyer, & Ball, 2008; Talbert, Vaughn, Croom, & Lee,

2007), depicted as a three-circle Venn diagram (see Figure 1) shows a well-balanced program with three equal components of classroom/laboratory instruction, FFA, and SAE. Over the years, the importance and relevance of this model has been debated and defended as a necessity for a quality agricultural education program.

Agricultural Education program approaches the model differently. Although all components of the model are important, a quality program must be centered on the classroom (See Figure 2). Without classroom and laboratory instruction within schools, there would not be FFA or SAE for the students to develop their leadership

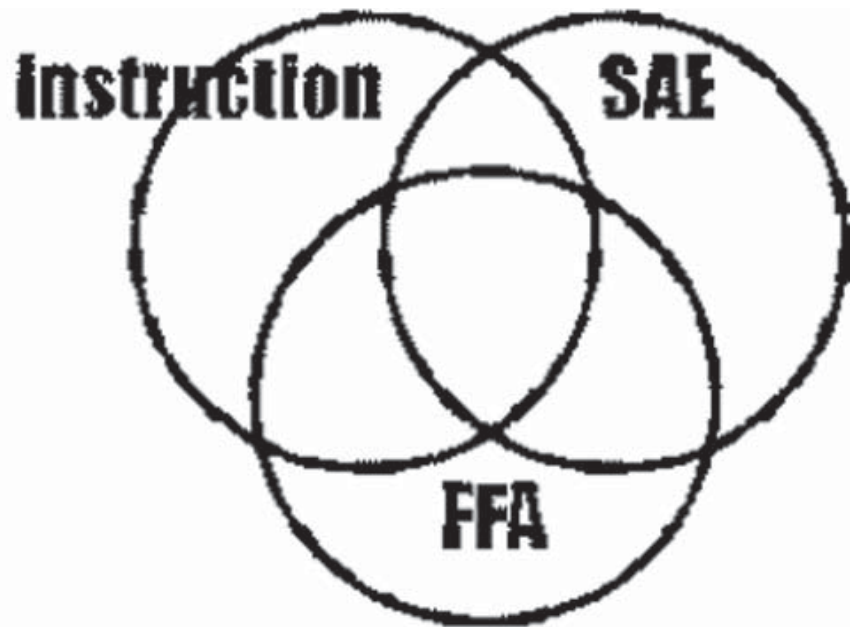


Figure 1. Traditional model of agricultural education.

During the almost 100 years of federally-funded public school agricultural education both agriculture and education have changed greatly, yet the model has remained the same. The Lebanon

abilities and career skills. Therefore, the model emphasizes instruction. This emphasis is further enhanced by the type of schedule Lebanon High School is on. The schedule is a modified block with eight 85-

Continued on page 12

A Framework for Comprehensive Program Evaluation

by Rama Radhakrishna & Patreese Ingram

Assessing impact of Extension programs, stakeholder demands for accountability and reduction in funding from federal/state/local governments for all programs are a major concern. In addition, the demand for Extension educators to demonstrate the value and usefulness of programs and services they provide is sure to increase in the next 5 to 10 years. Such demand will create more opportunities for Extension educators to document impact of program outcomes and services to target audiences. Higher education institutions, like all public agencies, have seen an increased emphasis on program performance and accountability from local, state, and federal agencies (Ladewig, 1997). This expanded requirement to document impacts of Extension programs calls for innovative ways to systematically evaluate Extension programs.

The educational programs and services delivered by Extension professionals are more diverse than they have ever been and will continue to change to meet the changing needs of the clientele they serve (Radhakrishna & Martin, 1999). Today Extension educators face enormous challenges to conduct systematic evaluation of their Extension programs. These challenges have been well

documented in literature: lack of time, lack of resources, limited expertise in evaluation design and methodology, instrumentation, and data analysis. Further, issues such as lack of support given to Extension evaluation, extensive reliance on simple or single methods to document program outcomes, and limited skills in interpreting and using evaluation results have accelerated the need for developing a comprehensive Extension program evaluation. Despite efforts made to conduct systematic evaluations of Extension programs, Extension evaluations do not withstand the test of scrutiny from other evaluation groups because of relevance, methodological rigor, interpretation and use.

The purpose of this article is to provide a four-prong comprehensive program evaluation framework to document Extension program impact on targeted audiences. Our effort here is to describe the framework in the context of an Extension program development-evaluation cycle. That is, first, a problem is identified and needs of people affected by the problem are assessed. Based on the needs assessed, an Extension program is developed, delivered, and evaluated. Figure 1 depicts the four-prong—relevance, capacity, impact, and utilizations-framework within the context of Extension program development-

evaluation cycle. Each of the four prongs of comprehensive program evaluation is briefly described in the following paragraphs.

Relevance is the appropriateness of programs that address critical issues facing the nation, state, county. Key questions that one might seek to answer are: is this innovative program dealing with critical issues and concerns facing the nation, region, state, county? Have stakeholders and other groups provided input? Are program components based on recent up-to-date research-based information? Do the programs address the strategic goals? Simply put, relevance addresses the question: is Extension addressing critical issues facing society?

Capacity is the ability of individuals and availability of resources to identify, develop, deliver, and evaluate programs that are relevant. Key questions related to capacity include: Is there sufficient expertise—personnel to deliver programs, especially new and emerging programs? Are there adequate enough educational resources available? Are there resources, both human and financial, to assess program outcomes and impact? Is there support and

Continued on page 14

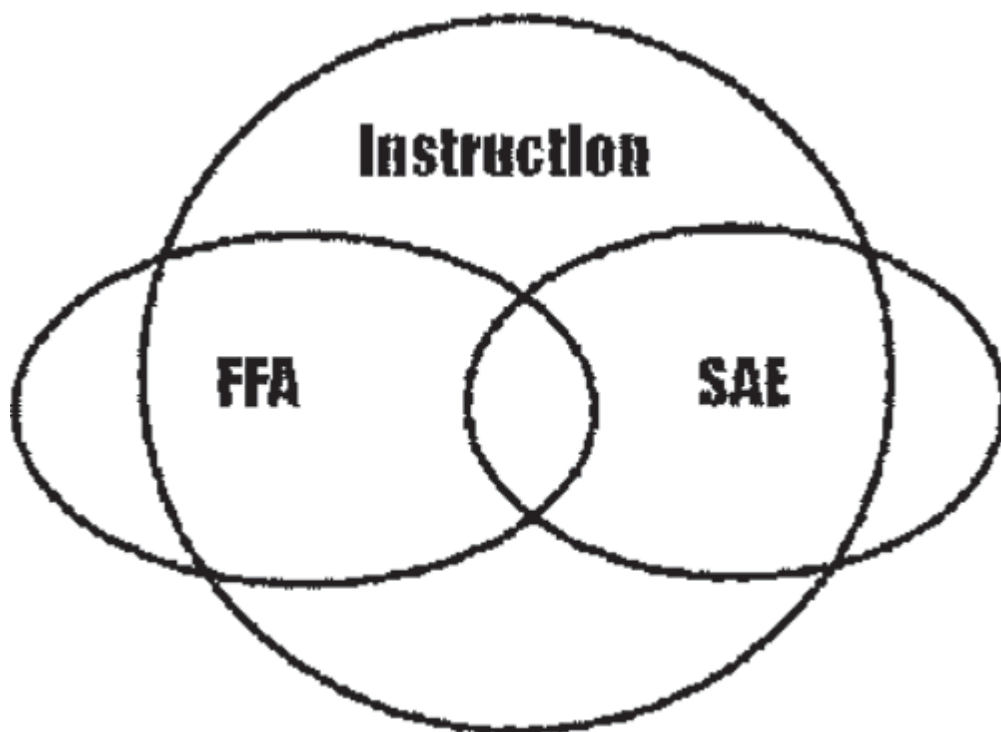


Figure 2. Agricultural education model with classroom as the focus

minute classes equally divided between two day rotations. This provides an ample amount of time to conduct hands-on activities, labs, and in-depth research projects. Six of the courses taught at Lebanon are in the Advanced Life Sciences; teaching chemistry, biology, biochemistry, and microbiology in the context of agriculture.

So, how does the revised model affect comprehensive program evaluation? A major change is that evaluation of the classroom component must become more frequent and more systematic. To address standardized testing requirements in Indiana, the Lebanon Agriculture Department has worked diligently to become proactive rather than reactive. For example, the state now requires end of course assessments, also known as ECA's, for some of the academic core courses. Even

though ECA's are not required for all Agricultural Education courses, the Lebanon Agriculture Department has committed to helping the school improve core test scores among its students by using mini-ECAs.

Each of the Agricultural Science and Business courses offered are driven by the state standards. Typically a teacher organizes instruction to cover a set of standards, then evaluates student learning through a unit exam. A grade is calculated based on the student's performance and then instruction proceeds to the next unit. By doing this, are teachers really using evaluation to their advantage? Instead of only evaluating instruction at the end of a course, Mini-ECAs are administered as a pre-test, throughout instruction, and at the end of each unit to better evaluate student comprehension on each standard. This allows teachers

to quickly see which standards the students have mastered and which need to be re-addressed. At Lebanon the mini-ECAs are facilitated by state-provided tools such as Mycaert (CAERT, 2007).

This new strategy is reinforcing how important the classroom is in relation to the overall program. The Lebanon Agriculture Department is not only able to evaluate itself and work to improve student learning for agriculture standards, but is now able to support the other content areas within the school to improve student learning in academic core areas and the school's state testing scores.

Another aspect of comprehensive program evaluation that supports putting instruction as the first focus is a strong advisory committee. When the Lebanon Agricultural Education program was first proposed, numerous individuals expressed interest and support in the possibility of a program, but a team of individuals that would provide a commitment to the program was needed to help guide the growth process. This team, advisory committee, currently has 13 members one of whom must be a school board member. Each member contributes a different type of background, experience, and expertise. Insight and guidance is given to the department at bi-monthly advisory committee meetings.

Each December, an advisory committee meeting is held in conjunction with an Agriculture Department Christmas meal. In attendance are advisory committee members, the agriculture teachers, and school administrators. At the meeting, the focus is on the benchmarks reached during the

past year and goals set for the next. The benchmarks and goals are determined by the needs addressed and the fit for the program at the time. For example, when the program began there was a general idea of the courses that would be offered, but no clear intentions on program size nor which classes would be in the most demand among the student body. At the creation of the program, as the stakeholders evaluated the situation, there was not a definite need for an on-site welding facility. However, the cost to build a laboratory for an Agricultural Mechanization course would require a long-term commitment to the course. Before making such a commitment, an alternative was sought. The extended class periods provided the opportunity for transporting one section of 14 students to a neighboring agricultural program where an Agricultural Mechanization course could be taught by a Lebanon teacher. As this aspect of the program was re-evaluated each year, the department, advisory committee, and administration were able to see that a welding facility located at Lebanon High School was something that was needed. A goal was set based upon this evaluation and this past January the first classes were held in the new welding facility.

A final component of comprehensive evaluation is communication, which is just as important as goal-setting. As a department of four Agriculture teachers, communication has been the key to obtaining the set goals. Because the program spans between two buildings with students in grades 8 through 12, the departmental staff works to provide vertical articulation with planned action steps to achieve goals through weekly department meetings. This 30 minute time

in the morning has been a key factor in maintaining classroom and laboratory instruction as the major priority while also providing quality FFA and SAE instruction to address the needs of the school and students. The other components of the Agricultural Education model, FFA and SAE, still hold great value within the Lebanon program. However, not every student in an Agricultural Education classroom has the desire to be a member of The National FFA Organization or participate in a structured SAE. Therefore, it must be a goal of educators to develop leadership, personal growth and career success in all students not just those who pay FFA dues. The Lebanon Agriculture Department strives to prepare all its students with the skills and abilities to succeed no matter where their path may lead them and to provide them with real world application.

As some of the most difficult economic times in recent memory are encountered, businesses and industries have to work diligently to address the needs of their consumers or they risk failure. Strategies must be developed that will set them apart from their competition. All of this is done by evaluating where they are now and where they need to go. Education, agricultural education specifically, must do the same. It is the job of educators to stay competitive in our field and up-to-date on what is needed and how to prepare our students. By using an Agricultural Education model along with comprehensive evaluation the needs of our community and students will be met. The concept of classroom/laboratory instruction, FFA, and SAE is just as valid today as it was almost a century ago, but each agriculture program needs to

constantly evaluate what the needs of their community and students are in order to change the way the model works for them. It is all about finding the “fit” for the program!

References:

Center for Agricultural and Environmental Research and Training (CAERT). (2007). *Curriculum, content, and assessments for CTE* [website]. Retrieved April 9, 2009, from <http://www.myaert.com>

Phipps, L. J., Osborne, E. W., Dyer, J. E., & Ball, A. (2008). *Handbook on agricultural education in public schools* (6th ed.). Clifton Park, NY: Thomson Delmar Learning.

Talbert, B. A., Vaughn, R., Croom, D. B., & Lee, J. S. (2007). *Foundations of agricultural education* (2nd ed.). Danville, IL: Professional Educators Publications.

Picture not available

Kristen Baker is an Agricultural Science and Business Teacher at Lebanon High School, Indiana.

B. Allen Talbert is a Professor at Purdue University.



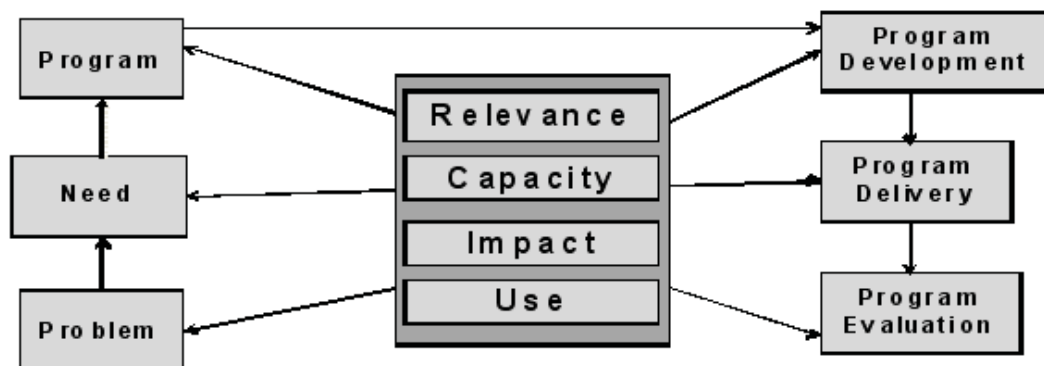


Figure 1: A framework for comprehensive program evaluation

commitment from administration to develop, deliver and evaluate programs? Is there sufficient staff support to carry out the programs? Simply put, *capacity* addresses the question: Do we have the capacity, both human and financial to carry out Extension work?

Impact refers to the effectiveness of Extension program efforts to the public good. In other words, did we make a difference? Key questions that focus on the *impact* include: Will the program bring about changes (KASA—knowledge, attitudes, skills and aspirations) in participants? What SEEC (social, economic, and environmental conditions) impacts will the program have on participants? Are people better off as a result of program efforts? Will others use the program to address critical issues facing individuals and communities? Does the program help bring about policy changes?

Utilization is the extent to which the impact results of Extension programs have been utilized. Utilization can occur in three different areas:

program improvement, program justification (accountability), and knowledge generation (Patton, 1997). Documenting the use of Extension impact results will go a long way in stakeholders’ “buy in” for all Extension programs. In an accountability era, utilization is of critical importance for stakeholder support and public funding.

Developing a framework for a comprehensive Extension program evaluation is both a challenge and an opportunity. It is a challenge because of the changes that are occurring rapidly. These include globalization, shifting demographics and societal trends, changing nature of food and agriculture systems, information explosion, diversity of programs and projects, reaching out to non-traditional clientele, reduction in public funding, and so on. In this era of accountability, program evaluators are under increasing pressure to document program outcomes. On the other hand, it is an opportunity for Extension to demonstrate impact of Extension programs to public good.

Collectively, the four-prong framework focuses questions that remind us of what it takes to have a comprehensive program evaluation. Are we engaging stakeholders in determining program priorities for Extension? Are we developing Extension programs in concert with the needs of the people? Do the

Extension programs address critical issues facing society? Do Extension personnel have the capacity/skills to evaluate programs that show impacts beyond KASA? Are Extension programs delivered effectively and efficiently? Addressing these questions should be an integral part of a comprehensive program evaluation. An important strategy is to integrate program evaluation into the program development process early on so that one can see how the program activities and resources are linked to desired changes in knowledge, attitudes, skills, aspirations, and behaviors. When Extension programs are properly planned and evaluated using the four-prong framework, the comprehensive program evaluation will work and will help persuade the general public that investments made in Extension really address the critical issues facing society and solving problems that confront our communities. Extension must develop a mechanism to effectively communicate the value of its work to public good.

Finally, based on our work and experience in Extension, we suggest imperatives for strengthening a comprehensive program evaluation.

These include: integration, investment, capacity building, reaching out to non-traditional audiences, and communication. Integration of diverse academic disciplines is important to addressing critical issues facing society. Therefore, integration should occur across disciplines and functions. Faculty and Extension educators should not only be encouraged but also rewarded for their efforts. Investment for evaluating programs is not only critical but a must if one has to show that investments made in Extension are benefitting society. We suggest that funds be built into programming budgets for evaluating signature Extension programs so the impact of such programs on society are documented and showcased. If we are to make comprehensive program evaluation work, we must build the evaluation capacity of our faculty and field staff. The use of advanced information technology is a cost effective method to build this capacity. Program evaluation must become an essential component of professional development programs for all Extension educators. We must reach out to non-traditional audiences and assess their programming needs. This is very critical as the demographics of America continue to change. Extension programs should reflect that change in reaching out and in developing innovative programs that address needs of this new group of clientele. Communication of Extension efforts to stakeholders is of paramount importance, especially in an accountability era as public funding of Extension programs continues to shrink. Finally, developing a comprehensive program evaluation framework and making it relevant and practical is our responsibility.

References

- Ladewig, H. (August, 1997). *Demonstrating accountability through collaboration and partnerships*. Paper presented at the Joint Southern Region Program Committee Meeting, Tallahassee, FL.
- Patton, M.Q. (1997). *Utilization-Focused Evaluation: The New Century text*. 3rd ed. Thousand Oaks, CA: Sage.
- Radhakrishna, R.B. (November 2000). *A framework to build evaluation capacity of Extension professionals*. Paper presented at the American Evaluation Association Conference, Honolulu, HI
- Radhakrishna, R.B. & Martin, M.V. (1999). Program evaluation and accountability training needs of extension agents. *Journal of Extension* [Online], 37(3). Available at: <http://www.joe.org/joe/1999april/99-3RIB1.pdf>



Rama Radhakrishna is an associate professor of Agricultural & Extension Education at The Pennsylvania State University.

Patreese Ingram is also an associate professor of Agricultural & Extension Education at The Pennsylvania State University.



Life-long Learning--Is it real?

How do we know we are still learning? What does "life-long learning" really mean anyway? If you are involved in the educational system you tend to become impervious to the concept of learning more about the topics you cut your teeth on--somehow thinking you already learned that.... Maybe that is what "burn out" is all about--just shutting down and not absorbing new information, preferring instead to rely on the way things have always been done.

Is there a cure for complacency? How can we motivate ourselves the way we motivate our students to view the world through fresh eyes? We know the world continually changes as do the expectations of what it means to be effective at our own work. For me, it seems as though I have a basic pattern regarding complacency or "burn-out." Roughly every seven years I begin to become less concerned over how things work. *Does it really need to be completed by that abstract date? Who really cares if I just do the same thing I did last semester--it needed some tweaking, but it worked O.K....* I'm willing to bet that each of you either have already felt that way, or you will in time. So, what can you do about it?

1st Determine if YOU are burned-out!

Symptoms include:

- Feeling tired or drained all the time

- Frequent headaches, back pain or other muscle pain
- Sense of failure or doubt
- Detachment
- Loss of motivation
- Procrastination
- Isolating self from others

Of course as we are all different, we can experience some or all of these symptoms and more. The question is: *Can we utilize our life-long learning ability to improve ourselves?*

I believe summer is a time for rejuvenation. Sure, we have plenty to do already--but for most people in education the routine schedule shifts in the summer. This gives us an opportunity to re-work our enthusiasm gene! Here are three tested and proven effective ways to achieve the goal of re-igniting your "teaching passion!"

Option 1

TAKE A VACATION!
SOUNDS OBVIOUS I know.



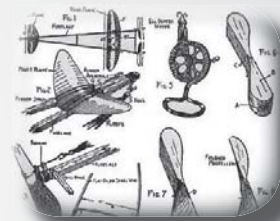
However, ask yourself how long has it been since you took a real vacation? I mean--new surroundings--no cell phones--no connection to work of any kind--this includes things like attending school-related activities, dropping by the ag building or office just to pick up something, finishing up that project to re-work your tool room in the school lab, or checking-out a new crop of show lambs in the next county, finishing a paper to submit for publication--you get the idea.



Option 2

GET CREATIVE! Creativity is a powerful antidote to burnout. Start a new project or re-discover an old hobby--just make sure it has nothing to do with work! Use this "mini-get away" concept to deal

with burnout throughout the year.



Option 3

TAKE A BREAK FROM TECHVILLE! Loose the electronic leashes in your life--at least for awhile. Leave the cell in the office or at home. Don't check email while you are on vacation. In fact, don't turn on the computer while you are on vacation!



Take some time this summer just for YOU! You will be a better educator, partner, parent, person for the effort!

*Think about it!
Billye*

Rural Background No Obstacle to Academic Careers in Science

By W. R. Klemm & Britta Moore

Growing up in a modern city with good schools offers many advantages to bright, ambitious children who aspire to careers in science. Wealthy urban school districts have many advantages over rural schools. Urban schools are more likely to:

- Have more funding per student.
- Recruit and retain more science and math teachers.
- Offer advanced science and math courses, such as physics and calculus.
- Offer dual credit or Advanced Placement (AP) courses that allow students to earn college credit before graduating.
- Have greater numbers of bright, ambitious and high achieving students who can motivate each other.

- Have more highly educated parents who place high value on educational achievement for themselves and their children.
- Produce more graduates with high SAT or ACT scores.

Each of these factors should stimulate children to pursue higher education in general and careers in science in particular. Conversely, children from rural backgrounds might be expected to be disadvantaged. However, a recent study by the U.S. Department of Education¹ revealed that rural kids at all grade levels scored better on national science tests than did children in cities. Also, rural teachers were more likely to report being satisfied with their school's teaching conditions, and thus we might suppose such positive attitudes would have

beneficial effects on the students. We therefore decided to learn more about the secondary school backgrounds of academically successful adults by surveying life-science faculty at a Tier I research university, Texas A&M University in College Station, Texas. Since the comparison was to be made with rural schools, we thought it appropriate to focus on life sciences, because rural children have more direct exposure to animals (particularly wildlife and livestock) and to plant life (particularly gardens, farm crops, and forests). The obvious metric for farm experience is participation in 4H clubs and school Future Farmers of America (FFA) programs.

Results & Discussion Survey Population

The population surveyed is shown

Table 1

| Survey Population Characteristics: | | | | | |
|---|----------------------------|----------|--------------|------------------------------|----------|
| Number Surveyed: | 483 | | | | |
| Participation: | 382 (79.1%) | | | | |
| Number of Academic Departments Surveyed | 19 | | | | |
| Reasons for not participating: | Ineligible (foreign born): | Refused: | No response: | No longer professors at A&M: | Other: |
| | 53 (11.0%) | 9 (1.9%) | 22 (4.6 %) | 15 (3.1%) | 2 (0.4%) |

in Table 1. The high response rate of 79% was achieved because we used a telephone survey and called repeatedly as needed. Most non-responders were faculty who had either left the university, had bad phone numbers, or were foreign born and had no opportunity for 4H or FFA experiences.

Table 2

| % with a High School Graduation Class Size of: | | | | | |
|--|------------|-----------|-----------|----------|-----------|
| 0-25: | 26-150: | 151-300: | 301-550: | 551-750: | 751+: |
| 6.8 (26) | 34.6 (132) | 17.4 (66) | 21.1 (80) | 8.7 (33) | 11.3 (43) |

Size of High School (T 2)

What is the definition of a large school? We can find no national definitions. In Texas, schools are ranked by size as follows: **5A-** 1,985 and up; **4A-** 950-1,984; **3A-** 390-949; **2A-** 190-389; and **1A-** 189 and below. This classification is based on total enrollment, not on size of graduating class. Though

Table 3

| % Junior College Attendance: | % University Attendance: | | |
|------------------------------|--------------------------|-----------|----------|
| | State: | Private: | Both: |
| 9.2 (35) | 77.0 (294) | 14.1 (54) | 8.9 (34) |

conventional wisdom is that large urban high schools offer more academic opportunities and presumably would be more motivating for academic careers, our population of professors generally came from small schools. Graduating classes less than 150 accounted for 41.4% of our professors, and classes less than 300 accounted for 58.8%. Only 20% of our professors went to large urban “mega-schools.” The culture of small schools may be more than amenable for producing future scientists and professors. Certainly, small schools offer more opportunities for personal attention, encouragement, and recognition of talent.

Table 4

| Department | Graduating High School Class Size | | | | | |
|-------------|-----------------------------------|------------|-----------|-----------|-----------|-----------|
| | 0-25: | 26-150: | 151-300: | 301-550: | 551-750: | 751+: |
| AGEC (30) | 11.54 (3) | 42.31 (11) | 15.38 (4) | 7.69 (2) | 11.54 (3) | 11.54 (3) |
| ALEC (25) | 17.4 (4) | 47.8 (11) | 4.4 (1) | 17.4 (4) | 8.7 (2) | 4.4 (1) |
| ANSC (27) | 9.1 (2) | 59.1 (13) | 4.6 (1) | 13.6 (3) | 9.1 (2) | 4.6 (1) |
| BAEN (13) | 0.0 (0) | 46.15 (6) | 0.0 (0) | 30.76 (4) | 7.7 (1) | 15.4 (2) |
| BICH (29) | 0.0 (0) | 12.5 (3) | 37.5 (9) | 20.8 (5) | 12.5 (3) | 16.7 (4) |
| BIOL (43) | 0.0 (0) | 22.2 (8) | 19.44 (7) | 33.3 (12) | 11.1 (4) | 13.9 (5) |
| ENTO (27) | 6.3 (1) | 37.5 (6) | 18.75 (3) | 25.0 (4) | 6.3 (1) | 6.3 (1) |
| FRSC (12) | 0.0 (0) | 28.6 (2) | 28.6 (2) | 28.6 (2) | 14.3 (1) | 0.0 (0) |
| HORT (23) | 10.5 (2) | 42.1 (8) | 10.5 (2) | 10.5 (2) | 10.5 (2) | 15.8 (3) |
| NUTR (23) | 0.0 (0) | 13.3 (2) | 33.3 (5) | 33.3 (5) | 0.0 (0) | 20.0 (3) |
| PLPA (16) | 7.7 (1) | 23.1 (3) | 30.8 (4) | 30.8 (4) | 0.0 (0) | 7.7 (1) |
| POSC (11) | 14.3 (1) | 57.1 (4) | 0.0 (0) | 28.6 (2) | 0.0 (0) | 0.0 (0) |
| RLEM (13) | 8.33 (1) | 25.0 (3) | 25.0 (3) | 8.33 (1) | 25.0 (3) | 8.33 (1) |
| RPTS (24) | 0.0 (0) | 41.2 (7) | 11.8 (2) | 17.7 (3) | 11.8 (2) | 17.7 (3) |
| SCSC (46) | 17.1 (6) | 45.7 (16) | 5.7 (2) | 11.4 (4) | 11.4 (4) | 8.6 (3) |
| VIBS (34) | 7.4 (2) | 33.3 (9) | 11.1 (3) | 29.6 (8) | 3.7 (1) | 14.8 (4) |
| VTPB (45) | 6.1 (2) | 21.21 (7) | 27.3 (9) | 27.3 (9) | 6.1 (2) | 12.1 (4) |
| VTPP (23) | 5.9 (1) | 11.8 (2) | 35.3 (6) | 29.4 (5) | 5.9 (1) | 11.8 (2) |
| WESC (20) | 0.0 (0) | 61.1 (11) | 16.7 (3) | 5.6 (1) | 5.6 (1) | 11.1 (2) |
| Mean | 6.4* | 35.3 | 17.7* | 21.6* | 8.5 | 10.6 |

**These data appears to be non-normally distributed and thus median rather than mean should be referred to as a summary measure.*

University Attendance (T.3)

Only a few faculty members (9.2%) attended junior college. This may reflect the probable fact that faculty members were good students who readily gained admission to mainstream universities. They also went to college in a different era, when junior colleges were not as prevalent and linked to four-year colleges as they are today. The results also showed that few professors were in the elite group of students who went to private colleges.

High School Size and University Attendance by Department (T. 4 & 5)

Only a few notable points can be made when school and university data are segregated by department (Tables 4 and 5). For example, Poultry Science (POSC) professors generally attended small high schools and none of them, along with Biological & Agricultural Engineering (BAEN) and Horticulture (HORT) professors, attended private colleges.

Participation in 4H or FFA (Tables 6 & 7)

Grouped across departments, some 22.5% of faculty participated in 4H and another 22.8% participated in FFA. Some faculty members (11.3%—43 professors) participated in both organizations. FFA programs

are typically four-year high school programs, and that may explain why years of participation were greater in 4H. It is perhaps not surprising that more than half of the surveyed faculty were leaders in 4H or FFA. The FFA program offers more systematic leadership opportunities, and that may help explain why 79.3% of FFA participants had leadership roles.

Significant differences were noted among departments (Table 7). No biochemistry faculty (BICH) participated in either 4H or FFA, and low indices of farm experience are seen in Biology (BIOL), Nutrition (NUTR), and Wildlife and Fisheries Science (WFSC). Relatively lower 4H or FFA participation was found

Table 5

| Department | % who Attended a Junior College | University Attended | | |
|---------------|---------------------------------|---------------------|-----------|-------------------|
| | | State | Private | State and Private |
| AGEC (30) | 3.85 (1) | 84.62 (22) | 11.54 (3) | 3.85 (1) |
| ALEC (25) | 8.7 (2) | 91.3 (21) | 4.3 (1) | 4.3 (1) |
| ANSC (27) | 8.7 (2) | 87.0 (20) | 13.0 (3) | 0.0 (0) |
| BAEN (13) | 30.8 (4) | 100.0 (13) | 0.0 (0) | 0.0 (0) |
| BICH (29) | 41.7 (1) | 54.2 (13) | 33.3 (8) | 12.5 (3) |
| BIOL (43) | 5.6 (2) | 63.9 (23) | 19.44 (7) | 16.7 (6) |
| ENTO (27) | 6.3 (1) | 81.3 (13) | 6.3 (1) | 12.5 (2) |
| FRSC (12) | 0.0 (0) | 71.4 (5) | 28.6 (2) | 0.0 (0) |
| HORT (23) | 0.0 (0) | 84.2 (16) | 0.0 (0) | 15.8 (3) |
| NUTR (23) | 13.3 (2) | 73.3 (11) | 13.3 (2) | 13.3 (2) |
| PLPA (16) | 0.0 (0) | 76.9 (10) | 15.4 (2) | 7.96 (1) |
| POSC (11) | 28.6 (2) | 100.0 (7) | 0.0 (0) | 0.0 (0) |
| RLEM (13) | 25.0 (3) | 75.0 (9) | 25.0 (3) | 0.0 (0) |
| RPTS (24) | 5.9 (1) | 70.6 (12) | 17.7 (3) | 11.8 (2) |
| SCSC (46) | 8.6 (3) | 85.7 (30) | 5.7 (2) | 8.6 (3) |
| VIBS (34) | 11.1 (3) | 63.0 (17) | 22.2 (6) | 14.8 (4) |
| VTPB (45) | 9.1 (3) | 75.8 (25) | 15.2 (5) | 9.1 (3) |
| VTPP (23) | 11.1 (2) | 66.7 (12) | 22.2 (4) | 11.1 (2) |
| WFSC (20) | 16.7 (3) | 83.3 (15) | 11.1 (2) | 5.6 (1) |
| Mean | 12.4* | 78.3 | 13.9 | 7.8* |
| Median | 8.7 | 76.9 | 13.3 | 8.6 |

Table 6

| 4-H Participation: | | | FFA Participation: | | |
|--------------------|---------------------------------|--|--------------------|---------------------------------|--|
| % Participation: | Average Years of Participation: | % of Participants with Leadership Roles: | % Participation: | Average Years of Participation: | % of Participants with Leadership Roles: |
| 22.5 (86) | 6.2 | 53.5 (46) | 22.8 (87) | 3.6 | 79.3 (69) |

Table 7

| Department | Response Percent | % of Faculty Foreign Born | % of 4H Participation | Average Years in 4H | % of 4H Participants with Leadership Roles | % of FFA Participation | Average Years in FFA | % with FFA Participants with Leadership Roles |
|---------------|------------------|---------------------------|-----------------------|---------------------|--|------------------------|----------------------|---|
| AGEC (30) | 86.7 (26) | 6.7 (2) | 42.3 (11) | 4.6 | 45.5 (5) | 42.3 (11) | 3.4 | 90.9 (10) |
| ALEC (25) | 92.0 (23) | 4.0 (1) | 39.1 (9) | 8.3 | 77.8 (7) | 65.2 (15) | 4.2 | 86.7 (13) |
| ANSC (27) | 85.2 (23) | 11.1 (3) | 56.5 (13) | 8.2 | 84.6 (11) | 69.6 (16) | 3.6 | 75.0 (12) |
| BAEN (13) | 100.0 (13) | 0.0 (0) | 38.5 (5) | 7.8 | 60.0 (3) | 30.8 (4) | 3.3 | 75.0 (3) |
| BICH (29) | 82.8 (24) | 10.3 (3) | 0.0 (0) | - | - | 0.0 (0) | - | - |
| BIOL (43) | 83.7 (36) | 11.6 (5) | 8.3 (3) | 7.3 | 33.3 (1) | 2.8 (1) | 1.0 | 100.0 (1) |
| ENTO (27) | 59.3 (16) | 29.6 (8) | 25.0 (4) | 4.8 | 77.8 (7) | 12.5 (2) | 3.0 | 100.0 (2) |
| FRSC (12) | 58.3 (7) | 16.7 (2) | 28.3 (2) | 3.0 | 0.0 (0) | 0.0 (0) | - | - |
| HORT (23) | 82.6 (19) | 13.0 (3) | 31.6 (6) | 8.0 | 83.3 (5) | 26.3 (5) | 3.6 | 100.0 (5) |
| NUTR (23) | 65.2 (15) | 13.0 (3) | 6.7 (1) | 2.0 | 0.0 (1) | 6.67 (1) | 2.0 | 0.0 (0) |
| PLPA (16) | 81.3 (13) | 12.5 (2) | 15.4 (2) | 6.0 | 77.8 (7) | 7.7 (1) | 4.0 | 100.0 (1) |
| POSC (11) | 63.6 (7) | 36.4 (4) | 14.3 (1) | 6.0 | 100.0 (1) | 57.1 (4) | 3.3 | 50.0 (2) |
| RLEM (13) | 92.3 (12) | 7.7 (1) | 33.3 (4) | 5.5 | 50.0 (2) | 16.7 (2) | 3.5 | 50.0 (1) |
| RPTS (24) | 70.8 (17) | 16.7 (4) | 11.8 (2) | 1.5 | 0.0 (0) | 5.9 (1) | 4.0 | 100.0 (1) |
| SCSC (46) | 76.1 (35) | 8.7 (4) | 25.7 (9) | 6.4 | 33.3 (3) | 40.0 (14) | 3.9 | 85.7 (12) |
| VIBS (34) | 79.4 (27) | 11.1 (3) | 14.8 (4) | 5.5 | 50.0 (2) | 18.5 (5) | 2.8 | 60.0 (3) |
| VTPB (45) | 73.3 (33) | 6.67 (3) | 15.2 (5) | 5.0 | 40.0 (2) | 9.1 (3) | 3.3 | 66.7 (2) |
| VTPP (23) | 78.3 (18) | 8.7 (2) | 22.2 (4) | 3.3 | 77.8 (7) | 5.6 (1) | 5.0 | 100.0 (1) |
| WFSC (20) | 90.0 (18) | 0.0 (0) | 5.6 (1) | 3.0 | 100.0 (1) | 5.6 (1) | 1.0 | 100.0 (1) |
| Mean | 79.0 | 11.8* | 22.9* | 5.3 | 55.1 | 22.2* | 3.2* | 78.8* |
| Median | 81.3 | 11.1 | 22.2 | 5.5 | 55 | 12.5 | 3.36 | 86.7 |

*These data appear to be non-normally distributed and thus median rather than mean should be referred to as a summary measure.

in the three basic-science departments of the College of Veterinary Medicine and Biomedical Sciences (VIBS, VPAT, VTP); this may reflect a shift away from farm animals in veterinary medical education to companion animal medicine and, for the faculty, emphasis on biomedical research. On the other hand, high levels of 4H and FFA participation were seen in agriculturally related departments such as Agricultural Economics (AGEC), Agricultural Leadership, Education, & Communications (ALEC), Animal Science (ANSC), and Biological & Agricultural Engineering (BAEN). Poultry Science (POSC) and Soil & Crop Science (SCSC) were well represented in FFA participation.

As an aside, large percentages of faculty were foreign born in Entomology (ENTO) and Poultry Science (POSC), while many other departments had few foreign-born faculty members.

Influence on Career Choice and Motivation for Science

On a scale where 1 is the greatest influence and 5 the least, results indicated that 4H or FFA experiences did motivate

students to pursue an academic career (average score of 2.5), and also that specific mentors were a motivating influence for academics (average score of 2.6). Answers to these scaled survey questions are somewhat problematic because we do not know exactly how each respondent interpreted the question. For example, a 4H or FFA experience's influence on choosing an academic career may have had minimal direct impact, while at the same time the *indirect* impact could have been substantial. Similar comments apply to the role that a mentor might have had in stimulating an interest in academics. In addition, mentors in FFA programs may have had more opportunities to have a personal impact, given that vocational agriculture teachers often teach all four years of FFA curriculum.

Conclusions

One could argue that these results are not surprising, given that A&M is widely regarded as an "ag school." But that is an outdated perception (The College of Agriculture has been renamed "AgriLife"). Also, some of the surveyed departments have limited ties to agriculture (Biochemistry, Biology, Recreation and Parks, Wildlife Science and the biomedical science departments in the veterinary college). More to the point is that all faculty in this university have been expected for four decades to be "publish or perish" scholars. The relatively high percentage of life scientists with rural backgrounds in a modern research university is perhaps not so surprising. Growing up in a rural environment has many intrinsic rewards that apparently off-set the academic preparation advantages that urban schools can offer. Rural children have more intimate contact with living things than do most urban children. These

experiences are especially intense for animal raising projects. Urban children may have never ridden a horse, seen animals give birth, or milked a cow, or planted and harvested a crop, or done many of the things that are common experiences for rural children,

Rural schools, compared with urban schools, are more likely to:

- Have smaller classes and more personal attention from teachers.
 - Have fewer "social pathologies," such as bullying, gangs, drug abuse.
 - Be less competitive and intimidating.
 - Provide more opportunities to excel and be recognized.
 - Provide more individual leadership opportunities (the opportunity to be a "big fish in a little pond").
 - Provide more opportunities to see the direct relevance of life-science curricular to their everyday world.
- Some of these advantages disappear when school districts consolidate to create larger, more urban-like schools. Moreover, animal and plant-raising projects of rural children cannot be accomplished without substantial parental support and encouragement (the U.S. Dept. of Education report suggested that rural parents are more engaged with their child's education than urban parents). There is no way to quantify the importance of such extra parental nurturing, but it has to be important for the psychological development of children. A person's most impressionable years occur as a child, and childhood experiences provide rich opportunities for stimulating interest in living things that are hard to duplicate in urban environments. It should not be surprising, then, that incubating the interest in living things throughout childhood would lead large numbers of rural children to pursue academic careers in life science. Rural youngsters with talent and ambition should be encouraged to participate in 4H and FFA. If

need be, they can always learn physics and calculus in college, as many of our respondents did.

Reference

1. Provasnik, S. et al. 2007. Status of education in rural America. National Center for Education Statistics, U.S. Department of Education. Washington, D.C.

Acknowledgments

The authors would like to thank Megan Davidson and Gretchen Koehler for their help in conducting the survey. The survey questions and protocol were approved by the Institutional Review Board at Texas A&M University.



W. R. (Bill) Klemm is a Professor of Neuroscience at Texas A&M University.

*A junior at Texas A&M University, **Britta Moore** is the proudest member of the Fightin' Texas Aggie Class of 2011. A National Merit Scholar, she is a biomedical science major and plans to become a veterinarian.*



The Internet-Telephone Interview as a Classroom Teaching Tool

By Don Lotter

The in-class telephone interview is discussed as a valuable teaching tool for all educational levels, from graduate school seminars down to elementary school. Even the busiest scientists and professionals will consent to a brief interview for a classroom of students. The interviewee's web page can be used to enhance the dialogue.

I recently taught a night class of introductory botany to a class full of tired, over-committed, rest-deprived students, mostly undeclared or non-science majors who just needed a science course with a laboratory component. With attention spans approaching the vanishing point in half the individuals in the class, the three-hour, twice a week class was a challenge for me, especially since we couldn't go outside and do plant walks in the dark.

While I don't believe in turning a college science course into a three-ring circus in order to keep students' attention, especially a course that is articulated with the University of California, I do try to use different teaching modes in order to stimulate learning. Botanical Jeopardy (modeled on the TV game show, you make up the questions), replete with my singing the Jeopardy jingle as a team tried

to come up with the answer, had a high "learning is fun" quotient.

One of my most valuable teaching tools is the in-class telephone interview, in which the interviewee's voice is amplified to the class and his/her web page or other documents are projected on to the screen and discussed. Scientists, scholars, news-makers – almost anyone you can reach by email or phone will generally consent to a 15-minute telephone interview. Most of mine go for 40 minutes. Sometimes the person is on their cell phone (in which case they have to refer to their web pages by memory).

Indeed, the in-class telephone interview doesn't need to be limited to college and high school – it can be used to interview anyone of interest to students, and in my view, could be used all the way down to mid- or lower-elementary school. When I was in third grade one of my classmates spent a long time in the hospital. I think it would have been great to hear his voice and to have him hear his classmates say hello. Or how about calling a relief worker in Myanmar, or a teacher in a classroom in Africa, both places where cell phones have become ubiquitous. The possibilities are endless, from a graduate seminar interviewing a scientist to a first-grade teacher talking to the leopard-keeper at the zoo. You just need

to pre-arrange the interview and account for time-zone differences.

I originally developed the in-class telephone interview for my very small agriculture classes at Imperial Valley College using a speakerphone and a 100-foot long phone cable strung to the nearest compliant staff or faculty office. This approach may yet be the best way to go for teachers with small classes who don't want to deal with Internet telephony.

With high-speed Internet in the classroom, Internet telephone interviews can be easily done using low-cost services such as Skype (Skype.com), the popular Internet telephone service. Skype can call any telephone for just a few cents a minute (2.1 cents in the US, around 5 to 50 cents per minute worldwide). Because of its low cost, I don't bother using Skype's free computer-to-computer talk mode, plus I just use my own Skype account and funds so that I don't have to bother with departmental accounting. Nor do I bother with trying to set it up to show the "talking head" - better in my experience to just project the interviewee's picture and web page onto the screen.

Skype is easy to install on a computer. Perhaps the best way is just to install it on your own laptop, test it, and then connect the laptop in the classroom. Three connections are necessary for

your laptop in the classroom – the network (Internet), the monitor (to the projector), and the audio to the speakers. You'll need a microphone that plugs into the computer, and you'll need to make test calls to make sure the speakers amplify enough for the class to hear, but not so much that the microphone picks it up and you get feedback. I cradle the microphone in my hand in a way that minimizes its picking up the speaker sound. I've been using Skype for calls from my home office for a couple of years now and have had very few problems. Normally one uses ear plugs for these calls.

For those who want the simplicity and reliability of the cell phone, or who lack a good Internet connection, it wouldn't be very hard to do an interview by using an amplifier and

microphone to project the audio of the cell phone on speakerphone mode. The quality of the sound is unlikely to be as good as that from Skype on a high speed connection however. The cell phone's speakerphone feature is generally not strong enough to project to a classroom by itself.

Most recently I interviewed a botanist friend who does ecological assessment studies around California. The students really perked up when someone other than myself, a video, or youtube (yes, there is educational content on youtube) was doing the talking. We referred to a document on the interviewee's web site, projected onto the screen. He related the geology of a particular area and how it was important to the existence of what he discovered

was the largest extant community of native California bunchgrasses ever found (California grasslands have been almost completely taken over by livestock-tolerant Mediterranean grasses). He then talked about the vernal pool ecology of California's Central Valley, and how he had just spent the day hiking in the hills with a butterfly net making \$150 an hour. Now that, as one student said, opened some eyes. (Vernal pools are ephemeral winter pools that dry up during the summer and fall and have a unique flora and fauna adapted to those conditions.)

It was gratifying to have an enthusiastic professional relate important course content in a way that stimulated students, and with such a small investment – no major time sacrifices, travel issues, funding etc. I will be using the in-class telephone interview a lot more, and I encourage teachers of all levels to try it just once – I think you'll be hooked.



Don Lotter conducts a telephone interview in his botany class via Internet telephone. He cradles the computer microphone in his hand to minimize its picking up the interviewee's voice from the speakers. A map of rare extant native California bunchgrass locations from the interviewee's web page is projected onto the screen as the interviewee describes his discovery of them.



Don Lotter has a Ph.D. in agroecology from the University of California Davis, teaches part time at Santa Monica College, and is applying for full-time positions in the western US. His email address is don@donlotter.net.



Communities of Practice... *NAAE's Place for Sharing*

By *Julia M. Fritsch*

Imagine engaging in a lively discussion with other agricultural educators, finding a great classroom activity, or even collaborating with colleagues from another school on an event or presentation, all while never leaving your desk.

NAAE's Communities of Practice is designed to allow you to do just that. Communities of Practice is a professional networking website for ag educators, and has discussion forums, resources and other tools designed to be helpful for agricultural educators at every level.

"Our goal is to create a place where ag educators can share ideas and content," said Alissa Smith, NAAE associate executive director. "We want to keep teachers engaged and excited about what they are teaching. We hope having a community of peers that ag teachers can turn to when they need help, advice, or support will help keep them energized and in the profession."

NAAE launched Communities of Practice in November 2007, and currently has about 900 registered users. Registration is free, and is open to anyone who has an interest in

agricultural education. Becoming a registered member allows users to post documents, create a profile and view other members' profiles, author their own blog, and embed pictures and videos, as well as a variety of other tasks.

"Our goal is to create a place where ag educators can share ideas and content..."

The site is organized into communities by agricultural education topic. There are

currently 32 communities, with topics ranging from Agricultural Education Advocacy, to SAE's, to National Board Certification. Each community is facilitated by a volunteer NAAE member who has a particular passion for that topic. Communities are added when members express an interest in adding a new one and a facilitator can be found.

Communities of Practice works much like other networking sites, but with an emphasis on collaboration and resource sharing. Any item, user, or community can be "watched," so users can receive email notifications when something is updated. Members can "friend" each other, and can provide status updates to allow users a glimpse into their daily lives.

Each community contains a subject-specific discussion forum, where members can post questions or pose discussion topics. The forums are monitored by the volunteer facilitators, who make sure that questions don't go unanswered, or at least try to point a user in the right direction.

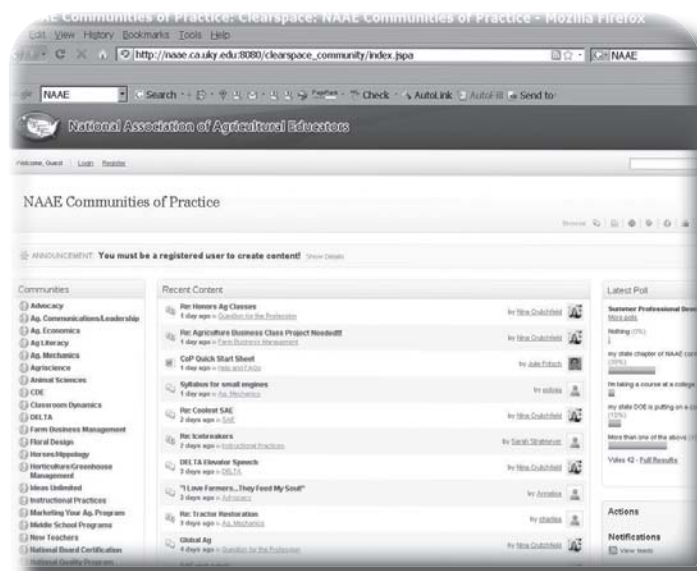
Users can also upload nearly any document type to the site, so it is easy to share lesson plans, tests, spreadsheets, and other resources with colleagues. Communities of Practice also has the ability to create wiki documents that can be edited by

any user, making collaborative efforts, like lists of resources, easy to make.

Registered users also have the ability to set up their Communities of Practice page show the content in which they are most interested, whether it's a specific community, content from a particular user, only discussions, or recently posted documents. Users can even pull RSS feeds from other sites onto their personalized page, so they can stay on top of a variety of topics without visiting multiple websites.

Communities of Practice also has a powerful collaboration tool called "Projects" that allows users to create their own activity-specific space within a community. For instance, if three teachers from three different schools were in charge of the planning for an area-wide event, they could set up a project to help them keep track of their progress. Projects allow users to set timelines, assign tasks, collaborate on documents, and have discussions, all within a framework specific to that project. Being able to post an item to the project page of Communities of Practice can prevent the confusion of mass emails and multiple versions of documents that can sometimes happen in collaborative situations.

Since its opening two years ago, Communities of Practice has grown into a powerful tool for agricultural educators from all across the United States, and will continue to grow as more and more people sign on. Visit Communities of Practice and become a member at www.naae.communities. Click on the Help and FAQ's community for help getting started as an active community member.



Julia Fritch is the Communications and Marketing Coordinator for the National Association of Agricultural Educators.

Follow the images to the right to see how simply it is to become a member of the Communities of Practice group!

Volunteers: *An Under Utilized Resource*

By Brenda Seevers

Every year, millions of Americans volunteer their time and assistance to causes they consider to be worthwhile. The use of volunteers in the school setting provides an extra resource without adding additional costs to school budgets (Shifflett, 1994). Further, volunteers in the classroom and in other programs provide widespread benefits to students, including an increase in student achievement (Shifflett, 1994), programs expansion, and levels of expertise (Ohlrich, 1996). The National School Volunteer Program, founded in 1956 in New York, formulated a set of objectives for using volunteers in schools. These objectives included:

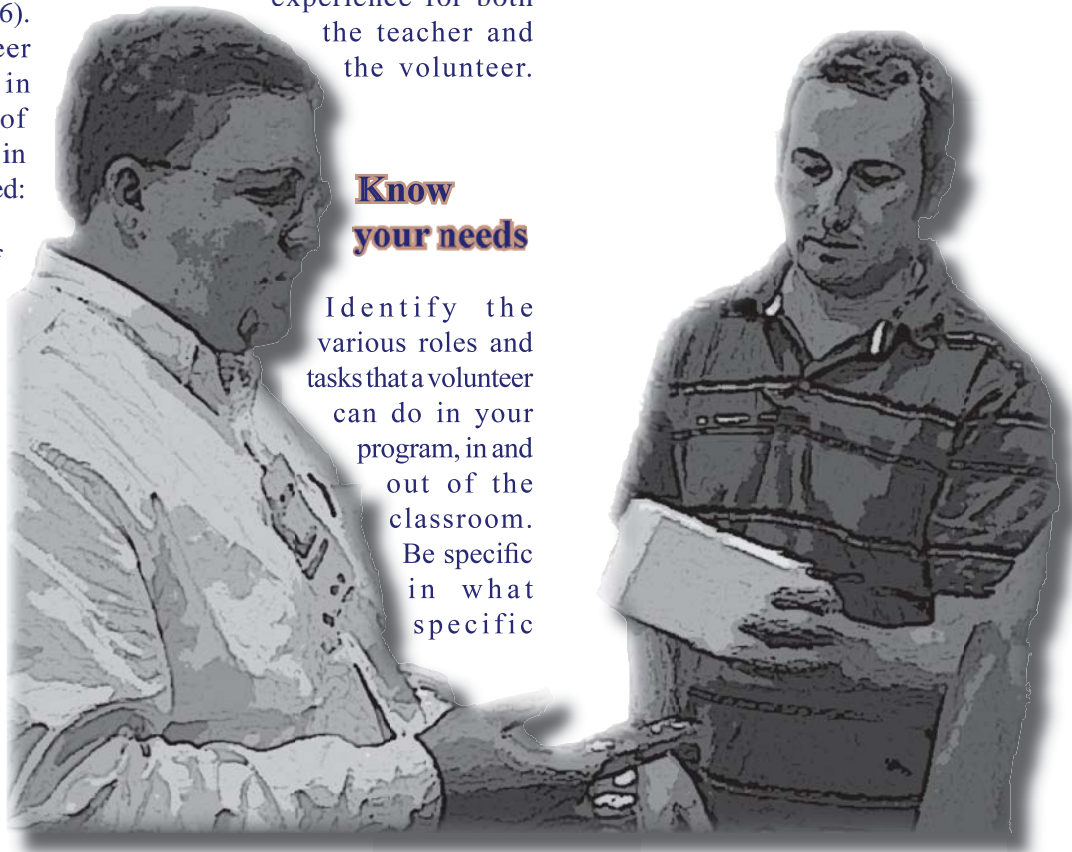
1. To relieve professional staff of nonteaching duties
2. To provide needed services to individual children to supplement the work of the classroom teacher.
3. To enrich the experiences of children beyond what is available in school.
4. To build a better understanding of school problems among citizens and to stimulate widespread citizen support for public school education (Carter & Dapper, 1974, p.52).

While the benefits of involving volunteers in public school settings have been clearly identified, Umscheid (1991) states the number of volunteers successfully involved in a program depends on a staff with a positive attitude toward volunteers and their involvement as a way to extend the teachers' own efforts. Successful involvement of volunteers requires not only a positive attitude, but time and commitment. A few skills and strategies can strengthen the chances of a positive experience for both the teacher and the volunteer.

skills, knowledge or experiences are needed to complete that task and match the person to the task. Failure often occurs when just accepting a "warm body" or not ensuring that the person has the proper skills or training. At the same time, know your school policy. Occasionally, even a well qualified person may not be able to assist due to safety or security reasons outlined by the school. Be sure both you and the volunteer understand what they can and cannot do according to the school.

Know your needs

Identify the various roles and tasks that a volunteer can do in your program, in and out of the classroom. Be specific in what specific



Communicate

Ensure that you not only select the right person for the right job, but that they also clearly understand the task(s) to be done, rules and regulations, policies and guidelines, boundaries and parameters and levels of authority. A few minute of orientation and briefing up front can save a lot of time and headaches later on.

Delegate

Perhaps one of the most difficult aspects of involving volunteers in the ability to “let go.” It’s your program and your reputation is on the line, therefore, sometimes it is just easier to do it yourself - or is it? To delegate means “to empower.” Delegation is not the absence of supervision, but it does mean that if you selected the right person for the right job, and have properly oriented them, there needs to be a level of trust and a transfer of power to allow them to complete the task. If you need to look over their shoulder every minute, the value of the volunteer is gone and you have merely created a situation which takes more of your time.

Recognize and Reward

Show appreciation. Most people volunteer because the want to, or they want to make a difference. But that doesn’t mean they don’t want to be valued. Recognition comes in many forms and means different things to different people. Some people like plaques and certificates while others are content with an “atta boy/girl” or a slap on the shoulder. Recognition is most valued when it is immediate and genuine.

Evaluate

What worked? What didn’t? Why? What needs to be done differently? These questions apply not only to each volunteer

*Perhaps one
of the most
difficult
aspects of
involving
volunteers in
the ability to
“let go.”*

involved with your program but also to the entire process being used by your program with volunteers. Reflection and analysis allows improvement, growth and change. Only when we know what worked and what didn’t and why can we move forward. Volunteers can be a tremendous asset and an invaluable community resource. They should be involved whenever possible in agricultural education programs. Good communication, organization and management of the volunteer program will establish a solid and beneficial partnership.

References

Carter, B. & Draper, G.I. (1974). *Organizing school volunteer programs*. New York: Citation Press.

Ohlrich, K.B. (1996). Parent volunteers: An asset to your technology plan. *Learning and Leading with Technoloby*, 24, 51-52.

Schifflett, D.M. (1994). *What effect do volunteers have on a rural primary school?* (ERIC Document Reproduction Service No. ED 373 945)

Unscheid, S.C. (1991). *Factors affecting agent’s involvement of volunteers in Cooperative Extension*. Doctoral dissertation. Cornell University.



Brenda Seevers is a professor in Agricultural & Extension Education at New Mexico State University in Las Cruces. Brenda specializes in leadership and volunteerism.

