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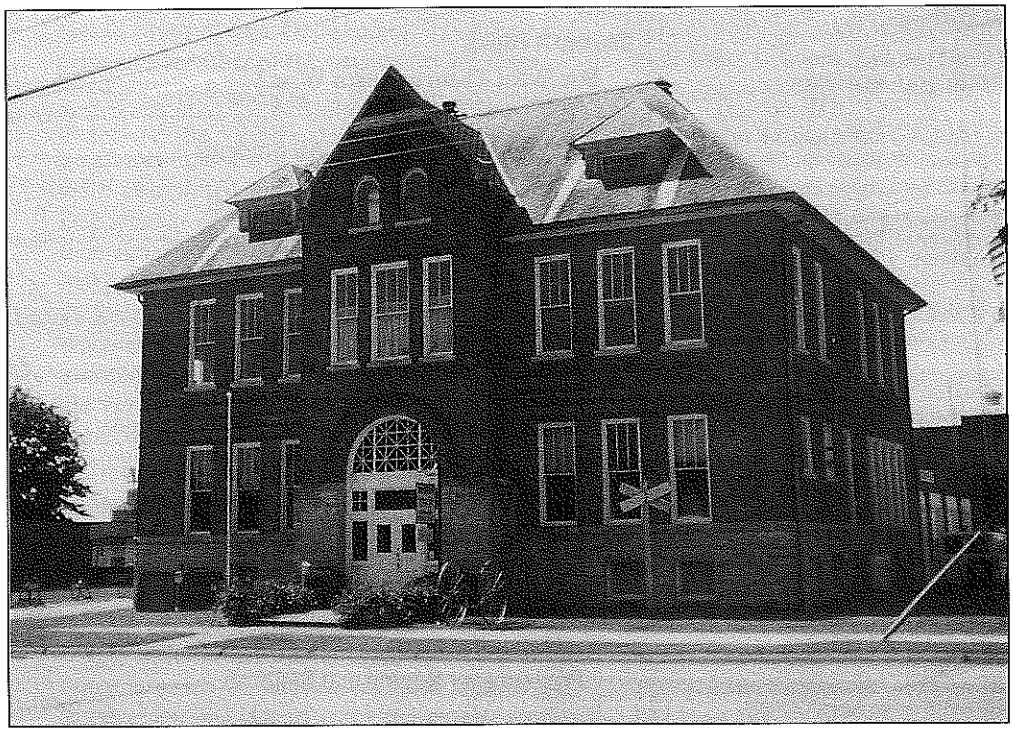

Rural Education

THE
AGRICULTURAL EDUCATION
MAGAZINE

October, 1995 Volume 68 Number 4

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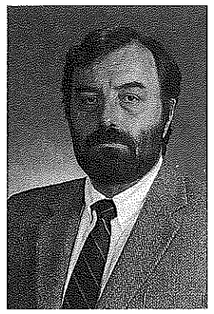
Rural Education



BY LOU E. RIESENBERG
Dr. Riesenberg is professor and head of agricultural and extension education at the University of Idaho, Moscow.

The theme of this issue of *The Agricultural Education Magazine* is "Rural Education". In thinking about what to write for these comments, a situation from a few years ago came to mind. The Department had hired a young assistant professor from a large eastern state, and it was time for the assistant professor to see the rural part of Idaho. The occasion was an upcoming ten-year accreditation evaluation of a school system in the eastern part of Idaho. Since the school being evaluated has an agricultural education program the Department was asked to provide a member of the outside review team.

The accreditation review was to take place in late spring of that year and and since the accelerated classes of the professional semester were completed by the end of February, the Department decided this would be an opportune time for the young assistant professor to make the trip and become more acquainted with the state and it's secondary agriculture programs. Another factor, if memory serves, was that the assistant professor was of the same gender as the agriculture instructor at the school, and it seemed like an ideal time for some networking.

In order to reach the school in question, the assistant professor would have to fly 600 miles, changing planes once; it was estimated to take the better part of a morning for just the plane trip. The assistant professor would arrive at the closest commercial airport to the school but would still have to drive approximately 150 miles to reach the school, and then another 50 to 60 miles in order to reach the closest motel at which the review team was headquartered.

In discussing travel plans with the departmental secretary, the assistant professor indicated an understanding of the time allocated for flying and the time for driving. The assistant professor, however, wondered what to do about eating a noon meal. The secretary suggested stopping at a fast-food restaurant would be the best way to save valuable travel time, insuring the assistant professor would be on time for the opening meeting of the review committee. It seemed that all appropriate plans and contingencies had been made.

However, there obviously were some small glitches in those plans and how those plans were carried out. The Department was not to hear about those glitches until the ensuing summer conference meeting of agriculture instructors when the subject of travel in Idaho became a topic of discussion. The agriculture instructor from the school that had been evaluated shared with the rest of the group the fact that the assistant professor not only drove right through the town where the school was located, but also drove right past the school that was to be evaluated. In addition, the assistant professor did not have anything that would approximate a midday meal. Because, as the story goes, the assistant professor had decided to catch a McDonald's on the way. Little did the assistant professor realize that fast-food establishments did not populate such Idaho towns as Terreton, Mud Lake, Leadore, Lemhi, Tendoy, etc.

Needless to say, the assistant professor was the recipient of some-on-the-spot informal teaching about travel in rural Idaho by the agriculture instructors attending the meeting.

Idaho, like many other states, has to contend with rural education. Idaho has 45 high schools with total enrollments of below 112 students. Twenty of those Idaho high schools have secondary agriculture programs. In many of those 20 secondary agriculture programs, each and every student in the high school enrolls in the agriculture program sometime during their high school years. These programs offer a very unique perspective and environment for teaching agricultural education. Many of these small schools still provide the agriculture instructor with an 11 or 12 month contract and facilities that are very comparable to the larger schools. Providing a secondary agriculture program in these small schools is just as costly as providing a secondary agriculture program in the larger schools. While many of the smaller schools may have less individual stations in their facilities, much of the other spatial requirements are similar whether the enrollment in the program is 35 or 100.

Additionally, these schools exist is very small, rural communities and, in most cases, quite possibly provide the core, or center, of that community. The school becomes a rallying point for the community and the agriculture program becomes a rallying point for the agricultural community in the area. Many of the teachers in these small programs do so much more, and mean so much more to that school and community than just teaching a series of day classes. In many of these communities, the agriculture instructor becomes the extension agricultural educator in addition to their public

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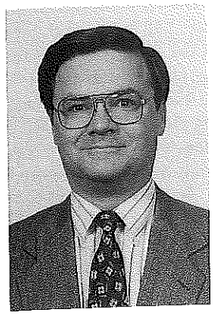
A Perspective on Rural Education



BY W. WADE MILLER

Dr. Miller is a professor of agricultural education at Iowa State University, Ames.

"The rural school presents the most important problem in American education. In it are more than six million children coming from one great industry, agriculture—the most fundamental and important of all industries. Under present conditions, this occupation calls for an unusual degree of intelligence and skill. It demands the highest type of business management and industrial ability. And, with the success of agriculture, is linked the welfare of every American citizen, whatever his status or vocation.

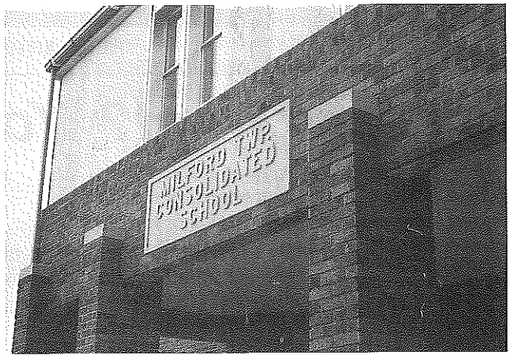
Yet, the rural school, the sole educational opportunity for most of our agricultural population, has been grossly neglected. In the midst of universal progress, it has been allowed to lag behind city and town schools. Abandoned to relative inefficiency, it has failed to hold the loyalty and support of its constituency. The victim of changing social and industrial conditions, it has dwindled in size, diminished in influence, and lost step with the spirit of the times.

But, the center of emphasis in education is changing—has changed. The great focus recently set at work to reorganize and civilize country life has found the condition of the rural school to be one of the chief causes of decay. In it has also been discovered one of the most promising instruments of reclamation and reform. The rural school will come into its own. The great educational agencies of the country—national, state, and private—are organizing to give it every help at their command. Commercial interests are offering cooperation and support. Legislatures are shaping laws to its advantage and placing increased revenues at its disposal. Best of all, this accession of public interest is stimulating the patrons themselves to desire and demand better schools."

When do you think these three paragraphs were written? Were they written in the 1930s, 1950s, 1970s, or even the 1990s? They were written in 1914, and they come from a book, *Better Rural Schools*, by George Herbert Botts of Mt. Vernon, Iowa and Otis Earle Hall of Crawfordsville, Indiana. Many of the issues are the same today as they were then. With the continued migration of people from the rural areas in many parts of the country, many rural school districts have been forced to consolidate, close down buildings, and eliminate educational programs. Transportation issues, finances, and increasing state requirements were major issues in 1914, and they remain so in 1995. But, in the midst of all this, a new rural is school emerging. There is more at stake than the rural school district with its kindergarten through high school emphasis. The term "Rural Education" is coming to mean more than public schools: it also means community revitalization, community culture and social life, retraining, college classes, adult evening classes, and a number of other forms of education. The rural school is not bound by its building or its location. With technology, it can literally be "linked with the world".

The old-time rural school occupied a large place in the social, as well as in the intellectual, aspect of life for the entire community. It was the center of many truly educational activities besides formal classes. Here, in the rural school, the neighborhood spelling bees were held, attended, and enjoyed by people from miles around. The neighborhood debating society held its meetings here during the long winter months, and discussed the great social and political questions that were agitating a young nation. School "exhibitions" provided an opportunity for training the oratorical powers of ambitious youth who would later win renown in the legislature or in the halls of Congress. The "singing school" was organized for the lovers of music, and the "ciphering" match was held for those who were ambitious to display their mathematical prowess. New acquaintances were made, old friendships renewed, courtships begun, and a thousand other advantages attained which are impossible without a common neighborhood meeting place and social center. The "little red schoolhouse" will long be cherished among us as one of our dearest memories.

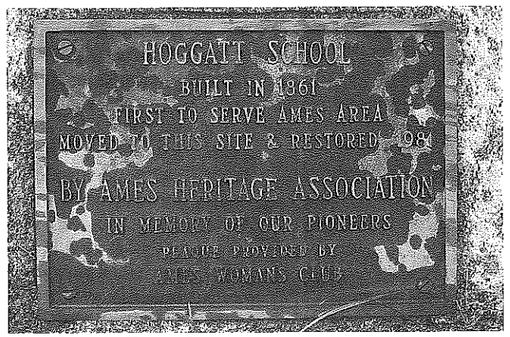
The challenges and problems facing rural schools are not new. Schools closures and consolidations have been taking place since public schools were established. In many parts of the nation, you can drive through rural areas and find old abandoned school buildings still standing. They range from "one-room school houses" to larger buildings which once housed →



Milford Township Consolidated School near Nevada, Iowa. Converted to a tractor repair business. *(Photo courtesy of W. Wade Miller.)*

kindergarten through twelfth grade. The words "consolidated", "united", "independent", "township", "county", "community", and many others are used in the names of many school districts which have merged or consolidated at some time in the past. Should we dream of the way things used to be or the way things could be? The age and conditions that gave birth to the old-time rural school have passed away, never to return. It is evident, then, that schools which served the purpose well during the last 80 years will not suffice today. Times have changed, new standards have arisen, and new demands are in force. The rural school can offer its patrons as good, or better, an education as that available to those who live in more urban areas. In addition, it can provide a focus and a meeting place for citizens to take an active role in addressing, and solving, community problems in rural areas.

In this issue of *The Agricultural Education Magazine*, you will find a variety of articles describing how several issues in rural schools and rural education are being addressed—in this country as well as one other. These articles are written from a proactive, rather than a reactive, point of view. With the pressures of loss of population, diminishing finances, increasing state standards, and transportation issues, it is easy to view rural education as a victim. However, community leaders, educational leaders, business leaders, and all other citizens need to become involved in shaping their own destiny. There are already too many abandoned buildings in rural areas and small towns! People in rural areas must take charge of their own system of education and shape it to meet their needs. These articles provide some examples and advice on how some people are addressing these issues.



Dedication plaque for Hoggatt School moving and restoration.
(Photo courtesy of W. Wade Miller.)

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Rural Education

(Continued from page 3)

school teaching responsibilities.

Much has been written about the fact that as rural areas continue to face difficult economic times, education funding, and efficient allocation of resources within school systems will become increasingly important issues for rural schools. Without strong fiscal support for rural education and the improved efficiency in the development and delivery of education programs, rural education will not be able to provide the human capital base needed to sustain rural economies and communities. It is even predicted by some that students who graduate from these schools will lack the skills and abilities to compete for employment in the competitive workforce.

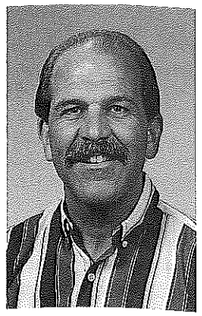
With the continued shift of society to primarily urban settings, the support for the public school systems is continuing to promote the growth of larger, urban-based schools. In light of this continuing change, it becomes more and more important for the local, rural communities to strive to garner local, state, and national support for the improvement of our rural education system. The students who graduate from these schools will need the same basic skills as those from larger communities, and rural students deserve the chance to be competitive in the workforce. Agricultural education can be a significant player in this scenario. ■

About the Cover

The building shown on the cover was the Roseville Consolidated School in Roseville, Illinois. The building has since been converted into a museum and city offices.

(Photo courtesy of W. Wade Miller.)

You Want Them to Learn What? You Gotta be Kidding!



BY B. LYNN JONES

Dr. Jones is an associate professor of agricultural education and studies and an extension planning specialist at Iowa State University, Ames.

For the sake of argument, let's look at a figure like 30 to 40 %. Now, let's place an identifier on that 30 to 40% as the amount of Net Farm Income that comes to the average agricultural producer in the form of government payments.

Again, just for the sake of argument, let's just say that one reasonable definition of Farm Management is the maximization of profits through the wise stewardship of land, labor, and capital. Obviously, there are many other definitions that could be utilized, but let's just hold on to that one for a few minutes.

Bear with me now, and allow me to ask a few questions:

- Would you consider government payments as capital in the farm enterprise?
- Would you consider the wise stewardship of those resources as a direct form of farm management?
- Would you consider it a reasonably wise practice to develop a fairly good understanding of the "ins and outs" of how such capital is acquired?
- Would you agree that an additional facet critical to asset management involves doing what you can to ensure long-term availability of the asset?
- Would you agree that if you are to have any influence over the allocation of an asset, you would be wise to develop an understanding of the entity that controls the distribution of that asset?

It is my contention that our educational system does a very poor job of helping students, at any grade level or age, gain an appreciation for or an understanding of government systems and how one might go about influencing the decisions of those systems. When you think about it, doesn't this seem strange to you? It sure does to me. I'm just an old country boy out of the Ozark Hills, but I do recognize that there aren't too many things I can identify that have a direct influence on over one-third of my income. Somehow, it seems to me that, in turn, I ought to be able to have some influence over systems like that. In fact, it seems to me like a real centerpiece of my education ought to help point me toward how I might go about such influences.

What do you suppose the framers of the constitution meant 200 plus years ago when they talked about "of, by, and for the people"? I kind of believe that, had they expounded, they felt that participation in the process was foundational. But, how can you participate in a process that you know virtually nothing about? The answer is really quite simple: you can't. And, isn't that precisely what happens more and more and more each year? We have less and less involvement by the citizenry in the processes that have more and more to do with how we derive our incomes and regulate our lives than any other system that we could fathom.

What did they mean by the term "representative democracy"? Far too many of our public entities interpret this as an opportunity to avoid personal or community responsibility for the input or decision making that happens at the local, state, or national level. It is so much easier just to say, "well, that's what we elected councilman so-and-so for", or "that's why we put such and such in Congress for". Well, excuse me, but I don't think so! Though I strongly support the concept of a representative government, it carries with it a great deal of individual and community responsibility that we simply cannot shun if we expect democratic survival. And again, how can we expect to meaningfully participate if we have a deficit of understanding concerning how the process works? Furthermore, how can we gain that understanding if not through greater emphasis and commitment throughout education processes?

"Great", you say, "so where does agricultural education fit into all of this? You're talking about stuff that ought to be taught in state and local government classes." Well, you are probably correct; government structure and function should be taught in such classes. What I advocate is that one of the most appropriate and functional places for such knowledge to be "learned" is in application classes like agricultural education. "Why?" Because, having an instructor drone on about the age one has to be to hold a specific public office, how a bill becomes a law, lengths of terms, or checks and balances is every bit as boring and uninspiring today as it was when you and I went to school, and maybe even more so. That is a prime reason for infusing participatory-influence and decision making into your →

agricultural education classes. Along with the plain fact that doing so is about as close to helping students gain a clearer, more useful understanding of farm management that just about anything I can bring to mind.

Does learning about our government and how to have a participatory influence in it really have to be boring? The oft-quoted old educational sage John Dewey talked about "Interest-Based Education". In his writings, he often described how students had to become motivated to learn through practical and applicable experiences. "If a kid is interested in butterflies, but not in reading, get the kid to read about butterflies. The student will learn reading in the process." Dewey's interest-based concepts are no less relevant today and are certainly applicable to learning about how to influence government decisions that will ultimately have a great effect on each of our bank accounts.

Okay, how about an example. Several years ago, while working in the state 4-H Youth Development program through Wisconsin Extension, I and several of my co-workers had an idea about citizenship education. We had observed that people just aren't very interested in doing anything to influence even the decision making that has a profound, and often permanent, effect upon the way they live and work. When we questioned people about the apparent lack of interest, they usually told us that the government and how it operates is far too complicated to understand. "Besides that," they would proclaim, "it's too boring, and there is nothing I can do about the decisions anyway." Some of us weren't ready to accept those ideas. As a part of a statewide event, we developed a program that introduced 14-17 year olds to the executive, legislative, and judicial branches of state government, utilizing Dewey's concept of interest-based learning. We visited at length with officials in each of the government branches, explaining Dewey's concepts, and asked them to participate with us. The result was a program that separated groups of students by interests in areas like: conservation education, animal science, water quality, family violence prevention, etc., and developed government education programs around those areas of interest. It was not that difficult, for example, for a Supreme Court judge to illustrate how the system operated by utilizing an actual case that directly involved the dairy industry in the explanation. Likewise, a state senator has no problem at all graphically describing how a bill becomes a law utilizing actual ground water legislation as descriptors. The students actually paid attention, were interested, and could follow what the officials were trying to illustrate. There was actual interaction between the sender and the receiver of the educational message. Holy smokes, education was going on! WOW! Not only were the students *taking in* information they had an interest in, they were *retaining* it. We did a pre-test/post-test using the same outcome indicators that students in this same age range were expected to attain in state government classes. Students in our 4-hour program scored about 25% higher than the mean of understanding in a semester public school class. Even better, we did a follow-up about three months later and found that the retention rate for our interest-based approach outdid the standard classroom approach by 17%. Not bad, considering the fact that our approach only took four hours.

"Great", you say, "but I teach undergrad and graduate students, and they already know this stuff." Wanna bet? Have you tried asking your students how they would go about developing a campaign to influence a public policy that will have a profound effect upon agriculture? I'm not talking about entering freshmen, I mean many of your doctoral seminar students. Have you asked them who was involved in writing the Farm Bill, and what process they went through to develop the decisions contained within it? Have you asked them to develop a case study that would frame a politically conflicting situation involving rural development and assigned them to develop multiple solutions utilizing higher-order thinking processes like root-cause-analysis? When you mention the idea of agricultural policy development, do your students grumble and complain that they came to your institution to learn "agricultural subject matter"?

How about your extension and adult learning groups? They are probably right on top of this government, citizenship, and policy stuff. Yeah, right! Those are the same folks that tell you they don't need to understand how to use a computer and keep better records. "Recordkeeping isn't farming," they say down at the coffee shop. "I'll just spend more time on the tractor and pay someone else to handle the bookwork. I'm a farmer." I don't know about you, but I haven't seen too many farmers left as I drive through the countryside. Most of the folks I see surviving in the agricultural enterprise today look more like farm managers. They are the ones that understand "the maximization of profits through the wise stewardship of land, labor, and capital". As agricultural educators, let's help them know how to influence those entities that have a major influence on those profits. Let's start with government education. ■

Rural Education: Serving All Students

(PHOTO NOT AVAILABLE.)

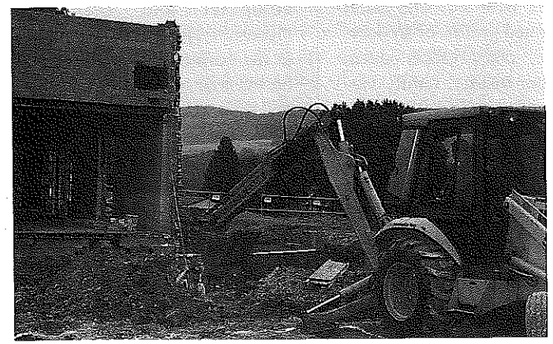
BY MEECEE BAKER AND ED BURNS

Dr. Baker is an agriculture instructor and Mr. Burns is the principal at Greenwood High School, Millerstown, PA.

The Greenwood system remains one of the smallest public school districts in Pennsylvania, having less than 430 students enrolled in grades 7 through 12. The district encompasses 99 square miles with 97 percent of the student body being bused to school. The entire district administration consists of a superintendent, the high school principal, and the elementary principal. There is no vice principal, curriculum coordinator, or business manager. Furthermore, the district serves as center for community-based athletic teams, birthing classes, boy and girl scouts, adult recreation, and adult/young farmer classes. Despite the small size, the district has been recognized for many successes, including the high rate of the graduates of the class of 1995 seeking post-secondary education (84 percent).

How does a small rural district successfully compete with wealthier suburban districts? The Greenwood administration and faculty believes that *serving all students* and following four guiding principles of *diversity, flexibility, cooperation,* and *technology* affords the necessary competitive edge in rural education.

With the belief that a well-rounded student makes a productive citizen, the school offers a *diversity* of opportunities. Well over three-quarters of the student population participate in one of the many club activities, and more than one-half compete with an athletic team. An active student government also provides educational and leadership development. Last year, the student council sponsored nine diversity assemblies targeted on enlightening the school population about varying ethic groups (less than one percent of Greenwood students are minorities). Other cultural happenings, like art exhibits and plays, are brought to the school in an effort to provide experiences not normally available to the rural student. Many rural students have limited travel opportunities, and welcome the chance to tour with a school group. In 1994, twelve Greenwood FFA members flew to the national convention in Kansas City. Greenwood's foreign language students travel abroad on a biannual basis, and regular sojourns to New York City and Broadway are sponsored by the music department.



The construction of a new technology wing helped the rural Greenwood district stay abreast with technological developments.

(Photo courtesy of MeeCee Baker.)

Flexibility in scheduling allows Greenwood students to customize their schedules with a blending of vocational and academic course selections. The result has been the elimination of tracking and the accompanying stereotypes. Curriculum integration naturally followed, and the agriculture and science departments are cooperating in the development of an environmental land lab. Perhaps the most exciting integration was the collaboration of local history and English classes in the publication of a community folklore book. Elderly townsfolk and agriculturists contributed stories, the art department helped with illustration, and the business department assisted with word processing.

Cooperation at Greenwood functions across the board, always focusing on the theme of "serving all students". The faculty and staff adapt to what is best for the student, not what is best for them. But cooperation doesn't stop at the employee level; the board of education, community, and student body also cooperate for the betterment of all. The FFA PALS program, recently instituted with the Greenwood Chapter, may best illustrate this spirit of cooperation. The PALS program teams older members with young students in order to provide role modeling and mentoring for at-risk elementary students. When more older pals were needed than one group could supply, the FFA and high school peer helpers joined to provide

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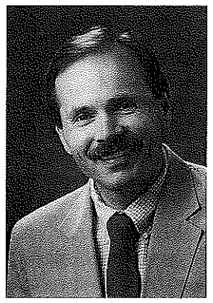
METNET: A User-Friendly Agricultural Electronic Communications System



BY MARTY J. FRICK

Dr. Frick is an assistant professor of agricultural education, Montana State University, Bozeman.

Introduction

Montana is the fourth largest state in the union. In short, the state is big! It is not uncommon for a Western Montana FFA Chapter to leave for the National FFA Convention and stay overnight at a motel within the state after the end of the first day's drive. However, there are benefits to the state's size and the subsequent distance people have to travel to see each other. Sometimes I wonder if the murder rate in Montana is so low because by the time someone gets in their vehicle to commit the dirty deed, they have reconsidered their intentions (cooled off) in the 100 plus miles it took to get to the would be crime scene. On a more serious note, the size of the state brings with it potential barriers. The apparent geographic distance within the state produces barriers such as isolation, shrinking population bases, shrinking tax bases, and inadequate telecommunications infrastructures and related services between schools which, in turn, affect agricultural education programs. Nothing beats face-to-face communication; however, a new state telecommunications network provides the state's school systems and its respective special interest groups (such as agricultural education) the opportunity to talk with each other on a regular basis without having to turn the ignition key. This advanced computer-based communication systems allow fellow agricultural educators to communicate with each other in a practical, inexpensive, and time efficient manner. The METNET system is an advanced conferencing, electronic mail, bulletin board, and on-line communication system that combines superb communications with a graphical user interface. It is not part of internet, but does allow for an internet connection. Every member of the Montana Agricultural Education Family has the opportunity to be connected to this system free of charge. Other Montana educators, as well, are eligible to be connected to METNET. Funds for support of the system are sponsored through Montana's Office of Public Instruction.

How Did METNET Get Started?

In the late 1980s, Montana's Legislature commissioned the Lambda study to look at how the state's schools communicate with each other. The study found that schools play "phone tag" in a big way. There was no cohesive manner in which even adjacent schools communicated with each other. During this time there was also a burgeoning of satellite technology that furnished new distance education opportunities for Montana schools. The findings of the Lambda study, coupled with new distance education technologies, prompted the state legislature to give funds to the Department of Administration, the Office of Public Instruction, and the Department of Higher Education for establishing a statewide electronic bulletin board and satellite access for schools. The responsibility for establishing the electronic bulletin board became that of Montana's Office of Public Instruction. The first electronic bulletin board was established in 1992 by using a DOS platform. The DOS platform was good for writing a note to someone, but was antiquated and cumbersome. The platform lacked the ability to perform other functions that should be possible on an electronic bulletin board. The overall response from METNET users to a survey indicated that they desired a bulletin board that provided a Graphic-User Interface. In April of 1994, METNET established a new system that offered users a Graphic-User Interface and the ability to access the bulletin board through Macintosh and Windows platforms while still accepting text-based communications. In addition, the METNET system was much easier to maintain. The final selling point of the system was its ability to perform multiple tasks such as simultaneously uploading and downloading files. Four thousand Montana school personnel were "on-line" as of January, 1995.

Practical Application of METNET for Agricultural Education

METNET actually consists of two pieces of software: The METNET *Server* and the METNET *Client*. The *Server* is run by an administrator at the Montana Office of Public Instruction. The METNET *Client* application is run on every individual computer in order to access the services provided by the METNET server. Every individual who desires access to METNET must install the *Client* application software, and have a Macintosh or IBM Computer and 14,400 baud-rate modem. A 1-800 telephone number is dialed to access METNET. The *Client* application is Windows-based for IBM users and application software →

is available for Macintosh computers. The METNET system administrator has established an AGED Conference within the METNET for over 70 agricultural education professionals in the state of Montana. Anyone who is on the AGED Conference can also access messages for agricultural education professionals, other mail directed to them, as well as information databases. To access the AGED Conference, the agricultural education professional would double-click with their mouse pointer on the AGED Conference icon which is located on the first active Window once a connection is made. Other icons are present and allow access to other services and conferences offered by METNET. Once on-line, and individual has 30 minutes per day to use METNET services.

METNET performs a number of functions for the common user. You can forward a message, indicate who should receive a carbon copy, stay on-line while accessing another program within Windows or the Macintosh environment, and engage in "Chat" with someone else who is on-line with you. In addition, the METNET system "Message" application provides for attaching all file types to a message. Therefore, someone can transfer a total software package or a proposal in a ready-to-use form to another person(s) on the network. Because METNET was designed for computers with a graphical user interface, you can find what you are interested in quickly without sifting through reams of unwanted information. You can point and click to read a particular message or open a conference without having to sort manually through all the messages on a particular topic. You can even directly print to your default printer while being on-line. Print format is kept the same as the monitor displays it. One of the more-used services that METNET provides in concise up-to-date Montana road and weather conditions which is much appreciated during a Montana winter.

To this point, the most extensive use of the AGED Conference on METNET has been communication between the members of the agricultural education leadership in Montana. Montana AGED family members to first receive METNET accounts and get "on-line" were Montana Vocational Agriculture Teachers Association Officers from across the state, Montana State University Agricultural Education faculty in Bozeman, and the Montana State Supervisor in Helena. METNET facilitated communication between these groups. Communication entailed working on the agenda for the state MVA conference, developing agendas for state meetings, and considering other uses for other agricultural education instructors.

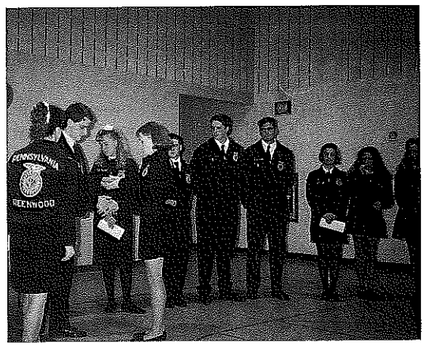
METNET was also used by AGED Conference members to access state education information. For example, a teacher can access teacher placement data, school finance information, and current legislative action taken by the Montana General Assembly. There are numerous other special-interest group conferences that members can ACCESS. If someone had an interest in current events that affect high school counselors, that individual would simply double-click on the METNET Counselor Conference to obtain any posted information on that conference. Conferences represent all kinds of content areas, special interests, and current issues related to public school education in Montana. ■

Rural Education

(Continued from page 8)

this invaluable program. Administration, guidance, faculty, parents, and both older members and younger students must cooperate to ensure the success of PALS.

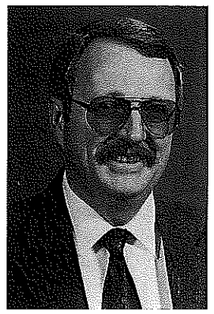
According to principal Burns, adoption of new *technology* is often initiated by rural teachers. At Greenwood, funding for technology occurs partially through the local tax base, along with secured grant moneys. Greenwood's recent addition of Access Pennsylvania gives students and community members access to any public library book in the state. A grant written jointly by the agricultural and science departments funded environmental texts, microscopes, varying test kits, and construction of a land lab. In addition, a new satellite system was acquired for distance learning opportunities enabling students to study subjects not available in the small district.



Twenty-five per cent of the Greenwood student body enrolled in agricultural education and the FFA. Overall, 75 percent of Greenwood students participate in a diversity of club type activities.
(Photo courtesy of MeeCee Baker.)

Success in rural education can't be tied to one aspect of school operation. Four key points, *diversity, flexibility, cooperation,* and *technology*, must work together in order to successfully serve all students. ■

Rural Education and Training in Egypt



(PHOTO NOT AVAILABLE.)

BY MICHAEL K. SWAN AND ISMAIL ABD EL-FATTAH ALY

Dr. Swan is an assistant professor of agricultural education at North Dakota State University, Fargo, and Mr. El-Fattah Aly is a research scholar at Minia University, Minia, Egypt.

In international development, it is of vital importance to consider how the rural sector is educated or provided learning experiences. Many international education and/or training programs have been designed after the extension Training and Visit system model (T & V) developed by David Benor. In Egypt, an extension T&V system model is being used to educate the rural agricultural sector. The concern is that many rural people are not getting any help or assistance in the educational or technological advancement areas.

The Egyptian Agricultural Sector, despite its huge land area, is only 3 percent of Egypt, or 6.5 million feddans (2.7 million hectares), which lies along the Nile river and its delta and which can actually be cultivated. Soils close to the Nile are excellent in quality, and the warm subtropical temperatures permit year-round plant growth. The topography is such that erosion is not a concern, and the land is well-suited for irrigation. Almost all cropland is irrigated because the country is virtually rainless, and abundant water of good quality flows down the Nile and is distributed to farms through a well-developed storage and distribution system. Such a mixture of conditions allows for high intensity cropping with yields substantially above world averages. The average size of land holdings is extremely small, and population density with respect to arable land is one of the highest in the world.

In recent years, Egyptian agricultural performance has seriously declined. Self-sufficiency on food production has fallen from 94.5 percent to the current 52 percent. The growth of agricultural output has declined from about 4 percent to 1.5 percent per annum, while population has increased by 2.9 percent in the same period. Import dependence became significant in 1974 when the value of agricultural imports exceeded exports for the first time. Major imports are wheat, flour, maize, sugar, vegetable oil, lentils, red meat, and poultry. Imports of wheat accounted for 75 percent of Egypt's total wheat supply, and imports of other foods accounted for between 26 percent (in the case of red meat), and 94 percent (in the case of lentils). Rice is the only major staple food in which Egypt is self-sufficient, although the amount of rice available for export is diminishing.

Agricultural production is influenced by the quantity and quality of human resources. The importance of labor availability in agricultural production has long been recognized; it is the people that make land and other resources productive. Many countries have yet to provide adequate training facilities and opportunities to create a skilled agricultural work force. In many of these countries, illiteracy is high, skills training is low, and public schools are inadequate. The capacity of people to provide quality labor and to command good employment options is severely limited. Studies suggest that the acceptance of new agricultural technology is greater with farmers who have had more education.

There is a pressing need to address illiteracy and provide job skills for large portions of the population. Without these abilities, people's options are narrowed, and their capacity to earn income is restricted. Agricultural production and development is often curtailed by an unskilled labor supply. Strong evidence suggests that improved education results in development of modern agriculture, and at the same time, educated people tend to adopt family planning methods. Investments in basic and technical skills will greatly improve the potential for increasing all goods and services in these economies.

The capacity to develop and manage education and technology in a manner consistent with a nation's physical, human, and cultural endowments is the single most important variable accounting for differences in agricultural productivity among nations. The development of such capacity is dependent on many factors, including: the capacity to organize and sustain the institutions that generate and transmit scientific and technical knowledge; the ability to embody new technology in equipment and materials; the level of husbandry skill and the educational accomplishments of rural people; the efficiency of input and product markets; and the effectiveness of social and political institutions.

Agricultural research in Egypt, specifically→

El Minia Governorate, is organized through the Agricultural Research Centers (ARC), a semi-autonomous organization with headquarters at Giza. ARC has eleven research institutes there for cotton, field crops, horticulture, soil and water, crop protection, animal production, animal health, agricultural economics, deserts, plant diseases, agricultural extension, and rural development. Each institute is administered by a Director, who reports to the Director General for ARC.

In addition to the main research station at Giza, eight research stations are located in different regions in the governorates. Each of these stations work on the main commodity of regional importance, besides coordinating research programs with the headquarters at Giza.

Agricultural research is also being conducted in the agricultural faculties of ten universities. Much of the research at the universities is not oriented toward practical farm problems, and is generally constrained due to limitations of funds. Universities can play an important role in improving the services provided by ministries of agriculture and agricultural extension services. These institutions should become actively involved with other agencies to strengthen extension work. The universities abroad must be the leaders in the task of providing for increased production and income, especially in agriculture.

There is growing recognition that increased food production will come from investment in training and providing incentives for the rural extension educator. Extension educators are the conduit for agricultural technology, technical knowledge and skills, agricultural credit, organizational services, land reform, and general development information. There are those who argue that if the technology is sound and profitable, it will diffuse without the aid of extension educators. But where farmers are poor and have minimal education, diffusion and adoption cannot take place rapidly without the necessary knowledge to use new technology correctly. The extension educator is the farmer's link with the outside world, and often determines which farmers will receive new seeds, credit, and fertilizer. Where the farmer/extension educator ration is very unfavorable, the extension educator cannot give priority to one sector of the farming community over another.

At the local level, the role of the extension educator must be directed toward training farmers as adopters/leaders or promoters. This enables the rural educator to serve people in many more communities, but still provide a wide range of up-to-date services.

Egypt is organized into 25 Governorates and 165 districts, and the El Minia Governorate has nine districts. Agricultural programs in El Minia are presently administered by an Under Secretary of Agriculture assisted by four Director Generals for agriculture, livestock, cooperatives, and administration and finance. The Director General for Agriculture is assisted by a number of directors and section heads for agricultural affairs, pest control, horticultural, animal production, mechanization, seeds, cooperatives, and "extension". Each district is headed by a Director of Agriculture and has section heads for the entire range of activities provided for at the governorate level.

El Minia Governorate has 350 villages along with a number of subsidiary villages and hamlets which are grouped into 66 local units. Each village has a cooperative/agricultural unit, each with a director, an extension agent, and several have supporting technicians (in some cases more than ten). Their work is supervised by an agricultural unit at the local level. The village technicians are each assigned a specific function like pest control, horticulture, animal production, mechanization, seeds, etc. in line with the divisions/sections at the governorate/district level, but function in effect as general extension agents covering varied functions for groups of farmers in the village. The village technicians are secondary agricultural school graduates, while the supervisory officers at the village and local unit levels hold Bachelor of Science degrees in agriculture.

The Government of Egypt (GOE) has in the recent past been increasingly concerned about effective transfer of sophisticated agricultural technology to farmers for raising farm yields. GOE has in this context been considering steps that may be taken to strengthen the agricultural extension organization, make its agricultural research more purposeful, and establish working linkages between research and extension.

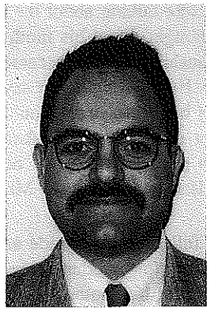
The approach for extending the educational or training programs proposed by the various groups is, in essence, similar to providing for professional extension service exclusively devoted to extension, with strong linkages with research.

The Training and Visit System has been carried out in El Minia Governorate since 1983. Since its inception, there has been little or no evaluation of the received effectiveness of the training and visit system on extension educators.

Primary concerns about the educational or training programs in El Minia are: a) what are the appropriate methods for providing the educational

(Continued on page 18)

Mentors, Youth at Risk, and Rural Education Programs: A Case Study



BY GARY J. WINGENBACH

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Introduction

The subject of mentorship has gained considerable attention in both the private and public sectors (Clemson, 1985). A great deal of literature has been generated within the educational arena regarding the role of mentorship programs for students at risk and the possible benefits and/or considerations of these programs. However, many questions remain unanswered when considering the impact of a mentorship program at its most basic level—the interaction of the mentor and protégé.

At-risk students face many extra-curricular problems on a daily basis. Drug addiction, alcoholism, abusive situations, and dysfunctional families are just a few of the problems facing our students. These problems can be exhausting, both emotionally and physically, thereby decreasing the likelihood that learning will occur. In fact, many students find most of the above-mentioned problems occurring in their own homes. Such problems were once believed to be "only in the big city". However, as Raven (1992) concluded from a statewide study of North Carolina youth:

> Agricultural and non-agricultural education students shared similar drug and alcohol use patterns. The percentage of agricultural and non-agricultural students in this study that had tried or were current users of tobacco, alcohol, and marijuana as well as other drugs was disturbingly high (p. 95).

How, then, can a mentor make a difference in the protégé's life? Can the mentor make a real difference? How much time is required before effective communication occurs between mentor and protégé? What role should the mentor take when the protégé is one of many students in an Agricultural Science and Technology (AST) program and the mentor is an agriculture instructor?

Background

While completing my student teaching internship at Tillamook High School in Tillamook, Oregon, I was designated as a mentor for a student at risk in his junior year. We spent approximately 12 weeks together in the program. Harold[1] showed an extremely high interest in production agriculture, especially in the area of plant breeding. I was student teaching in the AST program, which had 120 students in six different classes per day. Both Harold and I knew that this would be a short-term assignment due to my eventual return to Oregon State University; however, we agreed to make the best of the situation by having some fun together during this 12-week period.

Harold came from a broken home. His parents had both abused alcohol and hard drugs. Reports of child abuse were indicated several times in Harold's history. He was also experiencing academic difficulty in four of his six classes. When I entered the program, Harold was living alone in an apartment, and neither of his parents lived in Tillamook.

Procedure

The conditions of this mentorship program required mentors and protégés to meet outside of class for a minimum of one hour per week. Participants in this program were encouraged to do fun things together in the hopes of creating a conducive environment for protégés to openly share their problems in school or at home. Approximately 10 students and 30 mentors took part in this program.

The school counselors from Tillamook High School held separate meetings with the mentor group prior to and during the mentorship program. The group's discussion centered on techniques for active listening, building trust, counseling, advising, and creating an open atmosphere for sharing. The primary objective of this program was for mentors to create a positive influence and/or outlook for the protégé, but mentors were also advised of their legal responsibility to report any unlawful activities of his/her protégé.

Mentors should be patient and always willing to listen, and they should never be dominant or controlling. (Peters, 1991). I encouraged Harold to talk with me about anything and assured him that our conversations were confidential (no conversations would be shared→

[1] The student's name has been changed to protect the confidential nature of this information.

with other teachers or administrators). No tape recordings or written materials were present during our meetings.

I decided to take a passive role in organizing our outings, becoming an active listener for Harold so that a close relationship could be built in which he attained empowerment to control the direction of our program. As teachers, we have a lot to say about the conditions under which our students may find that power, but we must remember that the power itself is theirs (Daloz, 1986).

Conversations

Our first meeting occurred in the early part of January, 1993 when Harold was seventeen years old. We went to a Chinese restaurant at his suggestion, and we talked about several things over dinner. At first, he was reluctant to talk about his family life, but after an hour of conversation, he began telling me about his mother. Harold was very concerned about her living in Portland with her abusive male friend. He said his mom's friend had physically abused her on more than one occasion.

Later in the evening, Harold told me about his eventual college education. He said, "After my senior year, I'll go to a community college in the fall and continue my education". He said his current school work was "not a problem" and he was just a little bit behind the rest of his class. I knew Harold was failing four of his six classes at Tillamook High, and he would actually need an extra year to graduate at his current pace.

Our second meeting was scheduled for the following week, but it was canceled by Harold because his mother had been severely beaten by her friend and hospitalized. He said he needed to be with her, and I agreed. Consequently, Harold's mother moved to Tillamook with Harold. The next meeting was also canceled by Harold because he and his mother were being evicted from their apartment, and the following meeting was postponed because Harold was in the hospital from a concussion he had received while practicing karate on a concrete floor. He had been the recipient of a very successful leg sweep.

At this point, I had become quite frustrated with the whole program, and I then decided to talk to the counselors at the school. They were surprised to hear that Harold had given me a variety of excuses for not keeping a regular meeting schedule. Harold had told the counselors that we were meeting regularly and were having a great time. They then warned him that if he did not meet with me every week, he would be dropped from the program, and consequently, we made plans for the following week.

We met at the bowling alley since Harold loved to bowl, but he didn't have any friends to go with him. Harold didn't say much that night; I suspect that he still didn't feel comfortable talking to me. He did ask about my family back in Corvallis, and he showed a genuine interest in meeting them someday. I asked him if his mother was feeling better, and he said she was and he didn't really feel like talking about it. I asked Harold what he thought about his mother's co-dependent relationships, and he became agitated at this question. He said, "let's just say I wish I could have really big muscles so I could show that guy a thing or two". When I asked him if he had ever been physically abused, he answered, "I think I better go home now, Mr. W".

Our future meetings fell by the wayside as one unpredictable situation after another arose. One weekend, Harold helped his mother move their belongings to his grandparents' farm in Hebo, Oregon. The next week, his sheep (SAE project) got sick, and he needed to take care of them. Finally, with only one week remaining in my internship, Harold came to my office and told me he would be transferring to Nestucca High School and I wouldn't see him anymore. I told him I was disappointed that we couldn't spend more time together, and he shrugged and replied, "that's the way it goes sometimes, Mr. W".

Questions

How can a mentor make a difference in a protégé's life?

Based on my limited contact with Harold, I believe a mentor must take an active role in planning and implementing extra-curricular activities for this program to work effectively. Admittedly, there is a risk involved with the mentor taking on too many responsibilities for planning activities. However, if the protégé is at a loss for ideas of what to do, it becomes the mentor's responsibility to provide some stimulus for finding activities that both can enjoy. As promoters of learning, we have the opportunity and the responsibility to encourage young people and assist in their personal development (Peters, 1991).

Can the mentor make a difference in a young person's life?

I feel that I, as a mentor, did not create a positive effect in Harold's life. This may have been an impossible task, given time constraints and lack of regular meetings. Harold's old habits of lying, avoidance of contact, and mistrust prevailed throughout our meetings. By Webster's definition, a → mentor is a trusted counselor or guide. I left this program feeling that I neither counseled nor guided Harold in his personal difficulties. Mentoring should be viewed as helping, not as substituting for the protégé (Anderson & Shannon, 1988). I didn't even get the feeling I had helped Harold with a particular problem.

How much time is required for effective communication between mentor and protégé?

The mentor and protégé must have a high degree of trust before meaningful communication can take place. Certainly, there was not enough time in this program for developing a trusting relationship between Harold and myself. Within a year of working closely with Harold, one could eventually break down some of his barriers and become a positive influence for him.

Careful consideration should be given to correctly matching personality types between the protégé and mentor. Harold was very indifferent during this program. He may have found it easier to talk to a mentor who was more blasé about the program. This implies correctly matching introverts with introverts and extroverts with extroverts. An introverted protégé should not be required to work with an extroverted mentor with whom he/she cannot easily identify or communicate (Clemson, 1985).

What role should an AST instructor/mentor have with an AST student/protégé at risk?

A mentor, agricultural instructor or otherwise, should take a more active role in the planning and implementation of extra-curricular activities in a mentorship program. Mentoring serves a variety of basic functions such as: teaching, sponsoring, encouraging, counseling, and befriending. It is also an ongoing, caring relationship, and one that cannot be limited by school days or miles. Many of the skills that agriculture teachers possess are used when mentoring. Active listening, questioning, problem solving, and decision making are clearly elements on which the mentor will depend (Peters, 1991).

Recommendations

Based upon personal involvement in a mentorship program for youth at risk, the following suggestions for an effective mentoring program may prove useful:

1. A need exists to correctly match similar personality types in mentors and protégés.
2. Sufficient time (one year) is needed for positive interaction to occur between mentor and protégé.
3. Regular meetings between counselors and mentors are needed to further understanding of youth development and programming for youth at risk.
4. All mentors and protégés should gather together to share their perspectives on the mentorship program and how it could be improved.
5. Each protégé needs an opportunity to voice his/her specific concerns regarding mentors and/or the mentorship program in private counseling sessions.

Implications for Agricultural Education

There is little doubt that students in rural education programs are somewhat sheltered from the societal ills that plague our nation's large cities. Drugs, alcohol, delinquent behavior, and, in some cases, gang warfare have spread across America. These problems will not resolve themselves, and ignorance is not an excuse for lack of involvement.

"Teachers are burdened with the responsibility of remediating children socially and emotionally, as well as academically, for they cannot learn if their basic needs are not met" (Weate, 1994, p. 25). However, a mentoring program for students at risk in agricultural education does not have to place more burden on an already overworked agriculture instructor. Other adults from the surrounding community can provide a positive influence for students as well.

The old saying, "an ounce of prevention is worth a pound of cure", applies to youth at risk programming, regardless of geographic locale. If we are concerned about the welfare and education of *all* children, then we will decide to become actively involved in assisting students at risk while they are still in school. We do have a choice in education. We can choose to be proactive educators of the present by becoming involved in a mentoring relationship. Or, we can become reactive citizens of the future by building more prison space. I hope we make the right decision.

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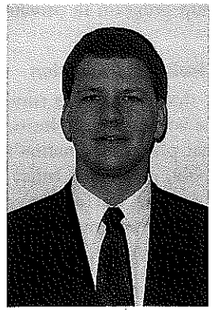
Designing Effective Adult Education Programs: Needs and Objectives



BY J. ANDREW WILSON AND B. ALLEN TALBERT

Mr. Wilson is a graduate assistant and Dr. Talbert is an assistant professor in the department of agricultural education at Purdue University, West Lafayette, Indiana.

"So, what do you do for a living?" Many of us hear this question and automatically respond that we teach agricultural education to junior high and high school students. But, what about the adult programs that many of us teach? Is that really a part of our job, too? It has become obvious that in order to keep up in a changing world, all people, throughout adulthood, must to continue to learn. Someone must assist agri-businesses, farmers, and other adults to better understand agriculture and perform their jobs more effectively. The local agriculture teacher could be an ideal person to help organize these learning activities. Some agriculture teachers already are, but are they doing an effective job? To be effective, adult education programs need to have an organizational structure (Bergevin, 1967). Better organization of adult programs will promote greater learning, and hopefully, greater learning is the goal of every agriculture teacher.

The program planning model in Figure 1 was developed by Dr. Jerry Blank and Dr. James Russell of Purdue University (1987). It is a very simple, but effective model that can help agriculture teachers organize their adult classes more effectively. In the center of the model is the adult learner. Around the learner is a circle of five segments of a good program. It is vital that as each of these segments is planned, the four statements in the boxes around the outside of the model are considered.

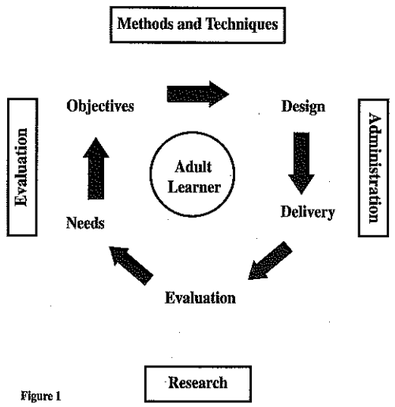


Figure 1

For instance, when determining needs of the adults, it is important to: establish what techniques will be used, decide who will administer the needs assessment, conduct the needs assessment research, and evaluate the needs assessment. Although the model is continuous, needs assessment is a logical starting point when first conducting an adult education program.

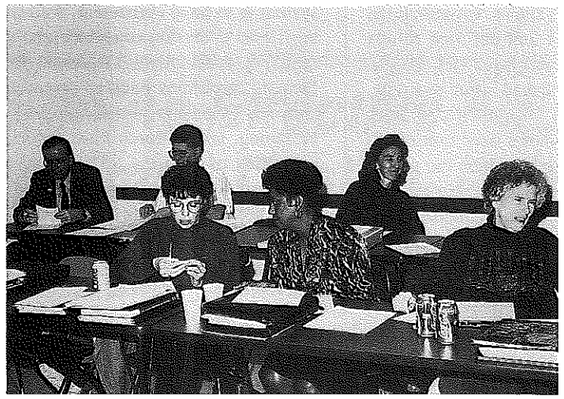
Needs

OK, I have decided that I am going to offer adult classes this year. What do I teach? When do I teach it? Who do I teach it to? These are important questions to be answered, and a needs assessment is an excellent way of determining the answers. When conducting a needs assessment and also when working with adults, you need to consider special characteristics. Certain characteristics are the same for all learners, but others are especially important when working with adults. Some of these are:

- Adults do not like to waste time.
- Adults have a vast wealth of knowledge from which to draw.
- Adults are especially interested in learning things that can be applied to their lives.
- Adults operate in well-defined social contexts.
- Adults often have special physical needs such as diminished eyesight and hearing (Bergevin, 1967; Caffarella, 1994; Caffarella & Merriam, 1991).

Because we are trying to help adults become better at what they do and how they do it, it stands to reason that the adults we plan to teach may be a great source of information. Using the Blank and Russell model, the following steps should be completed when implementing a needs assessment.

- *Establish a committee of organizers.* This may be your advisory committee or a new adult education committee consisting of the agriculture teacher and one or two others.
- *Identify the specific audience to be reached.* Will the course be for farmers, agri-business people, non-rural people, farm wives, or all of the above? →



Socializing is one of the most enjoyable parts of adult education. Plan to give the adult students time to talk and learn from each other.
(Photo courtesy of J. Andrew Wilson and B. Allen Talbert.)

- *Decide on what type of instrument to use for the assessment.* A questionnaire, word of mouth, or a group brainstorming session could all be used effectively as an assessment tool.
- *Determine what questions will be asked on the assessment.* Topic ideas, objectives, speakers, dates and times to meet, locations for meetings, and possible tour sites should all be addressed.
- *Collect information.* Decide on course objectives, design, delivery, and evaluation procedures.
- *Evaluate information received.* Was the information practical, on-target, and useable?

Hardin Northern is a small rural school in Ohio of about 650 students in kindergarten through the twelfth grade. The major industry is agriculture, and there is a need for people in agriculture to stay on top of the latest information. There have been adult short courses offered through the agricultural education department for years. To help organize the courses, a committee was put together that consists of an agriculture teacher, a course president, vice president, secretary, and a county agriculture extension agent. The Hardin Northern Adult Short Course is the name of the program and is available to anyone who is interested, but is specifically designed for farmers and agribusiness people in our community. While having tried using word of mouth and in a pinch still doing so, we have found that this is not a particularly good method of getting a list of community needs. A combination of a questionnaire and group meeting is a more effective way of performing the needs assessment. At Hardin Northern, we usually choose an evening early in the year to have a brainstorming session. We send letters to everyone who attended the year before and advertise the meeting in the newspaper. People who can't attend are encouraged to give their suggestions to someone who is attending. We have a short questionnaire waiting for them at the meeting with questions such as: topics that they would like to see discussed, dates and times preferred, locations of tours, possible speakers, and programs that interest them. These ideas are shared with the rest of the group and then voted upon. This seems to be a very democratic method that allows everyone to voice their opinion. When the assessment meeting is done, we usually have a good indication of what our students want to learn for the year. Whatever assessment style is used, it is very important that it is evaluated. Did it supply you with the answers to your questions? If not, why not? The information from this evaluation will prove helpful next year.

Objectives

Once the topic has been determined, it is important that specific objectives be defined. The needs assessment can be beneficial in determining specific objectives; however, adults are not always able to tell you what they want to learn about a given topic. In this case, it is important to find people and resources which are able to give you specific objectives to be learned on a given

Small group activities can be used to determine adult student needs, apply variety to the instruction, and help students enjoy learning.
(Photo courtesy of J. Andrew Wilson and B. Allen Talbert.)

topic. Without objectives, classes tend to wander around with no aim or purpose, establishing a poor learning environment. Members of the community, extension agents, universities, and libraries are all good sources of information to help set specific objectives for each class. Once again, the advisory committee or planning committee could be very useful in determining these goals. In addition to these specific →

program goals, Bergevin (1967) recommended that overall, general goals that describe things like atmosphere, overall purpose, and obligations to the class be established. For example, one of our overall goals is to provide a relaxed, social atmosphere that promotes open communication, regardless of the topic. Once the objectives have been determined, it is important to evaluate them. Are the objectives concise, well-written, measurable, and on target? If the answer is yes for all the objectives, you are ready to begin planning your adult course.

Conclusion

Adult education is a very important part of rural life, and it can be considered a part of the overall agricultural education program. A program planning model can be an excellent reference and guide for planning an adult program. It provides a basis for organization and presents broad application principles for planning adult programs. Conducting a needs assessment and determining program objectives provide an excellent foundation. Now that you know what to teach, the questions become how to teach the material, how to determine the learning environment, and how to evaluate the effectiveness the program. In the next article, we will continue our discussion of the program planning model with emphasis on the design, delivery, and evaluation of the program.

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Rural Education and Training in Egypt

(Continued from page 12)

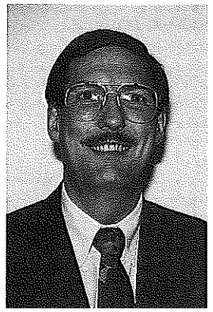
or training and visit systems through the extension service in El Minia Governorate, b) what are the perceptions of rural people of the training and visit system in El Minia Governorate, and c) what is the best method of delivering an educational or training and visit program to the rural sector in El Minia Governorate.

Sustained high levels of agricultural production and incomes are not possible without an effective agricultural extension service supported by agricultural research that is relevant to farmers' needs. The aim of the training and visit system is to have competent, well-informed village-level extension educators who visit farmers regularly with relevant technologies and bring farmers' problems back to researchers. Links between extension and research systems must be strong, and research must be oriented to the priorities of farmers. The mechanics of the training and visit system—the precisely delineated areas of staff responsibility, fixed work schedules, regular training of extension staff, and regular and frequent meeting of extension and research—have been designed to meet these basic requirements.

The work of extension staff should be focused on supporting the field-level agent, since he is the only extension worker who is in regular direct contact with farmers, teaches them extension's messages, and handles much of the feedback on their problems and reactions to the extension/research system. All staff must support and assist the field workers by way of training and in-field guidance to do these tasks well. Since the business of extension is agricultural know-how, a basic characteristic of extension, based on the training and visit system, is the priority given to professionalism, specialist staff support, training, and close linkages with research, other sources of know-how, and agricultural universities.

In addition to the fundamentals of management principles and leadership, four points should be kept in view in establishing or reforming extension along training and visit lines. First, professional, extension-based regular training and visits are not only able to serve situations of low-level agricultural development, but it can also be adapted to suit all levels of agricultural sophistication. Second, the basic management principles of professional agricultural extension are similar, no matter what level of agricultural technology implementation. Third, extension operations may be adjusted to meet local needs—for example, increase the number and level of technical specialists and field extension agents (including perhaps specialized agents for farmers who have already attained very high levels of technology), or emphasize the complementary support of field extension workers who can be provided by well-coordinated mass media activities. Finally, the extension system should also be expanded over time to cover most farm-based production activities, although it is likely to concentrate initially on major crops. ■

Designing Effective Adult Education Programs: Design, Delivery, and Evaluation



BY J. ANDREW WILSON AND B. ALLEN TALBERT

Mr. Wilson is a graduate assistant and Dr. Talbert is an assistant professor in the department of agricultural education at Purdue University, West Lafayette, Indiana.

Our last article dealt with determining the needs of the adult students in your class and discussed how to convert those needs into objectives. Now, how are you going to conduct your program, who will be teaching, and how will you evaluate it? This article will focus on answering these questions. The program planning model in Figure 1, developed by Dr. Jerry Blank and Dr. Jim Russell at Purdue University (1987), looks at how needs, objectives, design, delivery, and evaluation fit together. As we discussed in our previous article, the four boxed items around the outside of the model should be considered when planning the inner circle. We also looked at how characteristics of adult learners can affect the needs assessment, and how the needs assessment is the cornerstone to a good adult program. We also discovered that the objectives for a course can be derived from the needs assessment. Once the needs assessment has been completed and the objectives for the course set, it is time to design the course, which is the next step on the program planning model.

Design

Adults have learning characteristics that are both particular to them, and common to every learner, regardless of age. When designing a program, it is very important to keep these characteristics in mind, some of which include:

- Adults are interested in learning things that can be applied to their lives.
- Adults are social creatures.
- Adults often have special physical needs such as diminished eyesight and hearing.
- Adults like hands-on learning.
- Adults have a wide range of learning styles and preferred teaching techniques.
- Adults have a wide range of responsibilities. Time is very limited.
- Adults want their money's worth (Bergevin, 1967; Caffarella, 1994; Caffarella & Merriam, 1991).

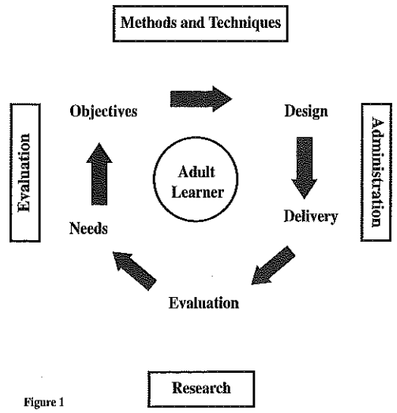
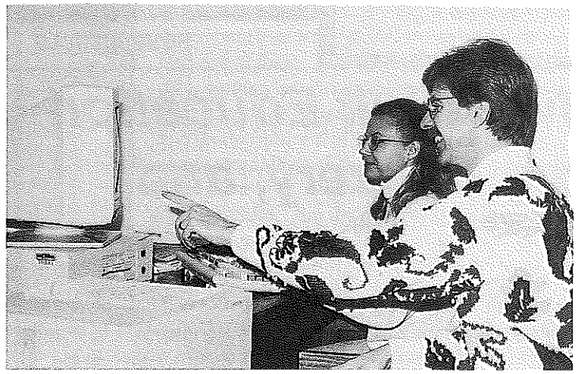


Figure 1

The design describes the overall structure, provides a basic plan for the construction, and establishes the learning environment for the program. When designing the program, it is again important to consider the four items in the boxes around the planning model in Figure 1.

The following are things that need to be done when designing an adult program:

- *Advertise for the class.* Include date, time, location, topic, and speaker. This will be very helpful in securing good attendance.
- *Identify how the class will be structured.* Will the class be designed as individual topic areas or will one overall topic be addressed throughout the class? For instance, you may have a class on computer record keeping one time, and a class on insect and pest control the next time. Or, you may have computers as an overall topic and show how to use a word processor one meeting and how to use a spreadsheet the next two.
- *Identify facility limitations.* How many students can be accommodated, and how few students is too few? Is there a sound system? What about audio/visual equipment? Has the custodian been informed? Looking at these questions well in advance could save many problems in the long run. →



Hands-on activities are a great way to instruct adults.
(Photo courtesy of J. Andrew Wilson and B. Allen Talbert.)

- *What are the budget restrictions?* When designing a program, it is very important to put together a budget. Focusing on costs first will allow the planner to recognize the amount of funding that will be needed. Consideration needs to be given to facility costs, equipment costs, program costs, and even refreshment costs. Funding can be obtained from a wide variety of sources, including: some interest groups, charging the students to participate, and local or state funding. It has been my experience at Hardin Northern that, by listing our total costs, we are better able to identify potential sponsors for programs. Because of budgeting, we seldom have to charge a participation fee.
- *What about refreshments?* Adults enjoy a good cup of coffee or other drink, and a donut as they try to get their brains to grasp a given subject. The cost of refreshments can be high, but we have found that local agribusinesses are usually more than willing to donate everything we need. Make sure that you recognize and give credit to these businesses. One more hint, if you don't like coffee, don't be the one to make it. You'll never get it right.
- *Sometimes things go wrong.* It is important to realize that no matter how well you plan, things still go wrong. Try to have backup plans for things like: bad weather, guest speakers who are no-shows, visuals that get lost in the mail, and broken audio visual equipment. When you advertise the class, it is a good idea to let students know how to find out if the class has been canceled, delayed, or postponed.
- *Remember to evaluate the design.* When you are finished designing the program, step back and evaluate it. Better yet, have someone else evaluate it. Are you forgetting anything? Have you set yourself up to fail?

Delivery

You have taken care of designing a good environment for the program. It is now time to decide how the program will be delivered. Keep the following items in mind:

- *Who will be instructing?* Many agriculture teachers are under the misconception that they must teach the class. Agriculture teachers often act as the facilitator of the class, but they do not have to be the main instructor. Guest speakers, video tapes, and hands-on demonstrations are just a few of the alternatives. Remember, adults learn better from people they consider to be experts. The agriculture teacher may not be that person.
- *It is very important to plan what teaching methods will be used.* Remember, that adults, like high school students, learn better from a variety of teaching techniques. Mix up the teaching styles. Lecture, discussion, panel discussion, demonstration, and many others can all be effective. Adults love a chance to do some hands-on learning.

An opportunity for individualized question and answer sessions should always be included in adult instruction.
(Photo courtesy of J. Andrew Wilson and B. Allen Talbert.)

- *Use a variety of media.* Overheads, slides, chalkboard, video, computer, and reading materials are just a few examples of media that work well with adults.
- *Determine who will mediate the class.* The mediator should be responsible for keeping the class moving, introducing segments of the program, and providing for the comfort of the students. Unlike the instructor(s), the mediator seldom does any teaching. His/her goal is to make sure things run as planned and that everyone is comfortable.→

- *Set up a timetable for each class.* This will allow the class to run smoother and provide better organization. Pick a starting time and stick to it so you don't start out behind right from the start. Give yourself 5 to 10 minutes for introductions and an explanation of the needs assessment process. This will make people more comfortable and help to reestablish a felt need. Divide the rest of your time into half-hour segments, changing teaching methods at the end of each half hour. Schedule a break every hour and a half, and make sure the class ends on time. If people want to stay after class to talk in more depth, that's fine. Just don't make everyone else suffer.
- *Evaluate the delivery.* Use the class participants and instructors to help evaluate the effectiveness of the delivery. This could be done in a very informal oral fashion, or a more formal written questionnaire. Be sure to record the comments somewhere so that you can use them to improve later programs.

Now that you have spent all this time planning it, get in there and do it the way you planned. Above all else, use a variety of teaching techniques and keep the class moving. Remember your objectives for the class and adjust to meet them.

Evaluation

Evaluation is often left off our list of things to do when teaching adults. You should have been evaluating each part of the program model as you planned or completed it, but an overall evaluation of the program also needs to be done. The most common thing to look for in an overall evaluation is student learning. If we do not know whether the class has learned, how do we know the program was effective? The easiest way to determine the amount of learning that took place is to evaluate the extent the objectives were learned. This can be done in a number of ways: written and oral testing of students, use of practical examinations to determine if the students are able to perform the task, and home visits to determine if the practices are used and understood. Until you are sure of what evaluation technique is best for your program, it may be wise to use a combination of techniques. You can then evaluate the evaluations to determine which was most effective. Make sure you know who will be administering the evaluation; it may be a good idea to have someone other than the agriculture teacher. A well-organized evaluation can provide the organizers of the program some great insight for ways to improve the program.

Conclusion

Adult education is vital to rural life. Agricultural education teachers have the unique opportunity to assist in providing this adult education. It is not easy to plan an effective adult education program, but a program planning model can make the job less strenuous. An effective needs assessment is the key to success. From it, objectives can be determined which allow planners to gain a focus. This focus helps to design a program that meets the needs of the students. It is also important to organize the delivery to make the program as beneficial and enjoyable as possible. Evaluating each of these steps as they are planned and implemented is also a very important key to a successful program. When the program is completed, the organizers should be sure to check for learning. An enjoyable, well-planned program is not enough if the participants did not learn enough to meet the objectives. Remember, agriculture is a growing, changing industry. As educators, it is our job to help people grow with the industry. Using the program planning model can give an adult education planner a model to help organize the program. It is not a cure-all, rather, it is a beginning.

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Caffarella, R. S., & Merriam, S. B. (1991). Learning in adulthood. San Francisco: Jossey-Bass Inc. ■

Coming Next Month...

Collaboration in Agricultural Education

Agricultural Education in the United States: Programs by Region and State

BY WILLIAM G. CAMP

Dr. Camp is a professor of agricultural and extension education at Virginia Tech, Blacksburg.

Since 1965, researchers from the Agricultural Education Division of the American Vocational Association have conducted an annual National Survey of the Supply and Demand for Teachers of Agricultural Education in the United States. The annual studies were conducted from 1965 until 1973 by Dr. Ralph Woodin, initially of the Ohio State University and later from the University of Tennessee, Knoxville. The study was continued by Dr. David Craig of the University of Tennessee from 1974 until 1984. Since 1985, Dr. William G. Camp from Virginia Tech has conducted the study except for 2 years when Dr. J. Dale Oliver, also of Virginia Tech, was responsible for the research.

This is the fourth in a series of reports to the profession on the results of the annual supply and demand study. For more details about the background of this ongoing study, and on the sources of the data, see the first article in this series, in the May, 1995 issue of the *Agricultural Education Magazine*.

Types of Teaching Positions

The table which follows reveals that the vast majority of teachers of Agricultural Education teach in either Agriscience (n = 1,335.5), Production Agriculture (n = 1,245), or some combination of agriculture courses (n = 3,932). Because many states are either revising their curricula or renaming their existing curricula to Agriscience, that program was added to the list of program options for the first time this year. Recall from earlier articles that there were a total of 10,119 teachers of Agricultural Education in the US in the fall of 1993.

Clearly, programs labeled as production agriculture no longer represent the predominant mode of delivery in Agricultural Education. Rather, teachers whose programs consist of various combinations of agriculture courses dominate and production agriculture has fallen to third place, behind agriscience. On the other hand, for anyone familiar with the teaching patterns in Agricultural Education, it is a reasonable assumption that many of those combination programs are dominated, or at least heavily influenced, by production agriculture. Based on the findings of this study, a typical Agricultural Education teacher in the United States works in a general or comprehensive high school, in a single-teacher department, teaching a variety of agriculture courses much of the day, and having no adult or Young Farmer responsibilities.

Types of Secondary Agricultural Education Programs reported as of September 1, 1993 [a]

PROGRAM FOCUS:	Central	Eastern	Southern	Western	US Total
Comb of Ag Courses	1,453	267	1,925	287	3,936
Agriscience	463	4	783	86	1,336
Production Agriculture	175	272	467	331	1,245
Ornamental Horticulture	155	190	528	106	979
Explore/Intro Ag	12	103	190	258	563
Agricultural Mechanics	88	87	247	100	522
Ag Sales & Service	116	2	55	28	201
Part Time Ag	7	56	118	17	198
Natural Resources	40	64	52	22	178
Disadv/Handicapped	0	34	107	0	141
Agricultural Products	18	0	27	1	46
Program not reported	18	4	20	0	42
Program not Reported					635

a Actual reported numbers included fractions since some teachers are employed part time. The data reported here are rounded off to whole numbers for ease in interpretation.

Look for This

In the next article in this series, data will be provided on the grade levels and department sizes of programs of Agricultural Education in the US in 1993. ■

The Agricultural Education Magazine
1996 Themes

Issue/Theme	Due to Theme Editor(s)	Theme Editor(s)
January 1996 *The Value of The Agricultural Education Magazine*	December 15, 1995	Lou. E. Riesenberg Agricultural and Extension Education 224 Morrill Hall • University of Idaho Moscow, ID 83844-3012 (208) 885-6358 lriesenberg@ag.uidaho,ed
February 1996 *Teacher Leadership Development*	January 15, 1996	Susan Fritz Agricultural Leadership, Education & Communication 302 Agricultural Hall • University of Nebraska Lincoln, NE 68583-0709 (402) 472-2807 alec010@unlvm.unl.edu
March 1996 *Agricultural Literacy: A Status Report*	February 15, 1996	Martin Frick Agricultural and Technology Education 126 Cheever Hall • Montana State University Bozeman, MT 59717 (406) 994-3201 uadmf@msu.oscs.montana.edu
April 1996 *Teaching Physical Science Applications in Agriculture*	March 1, 1996	Phillip Buriak & Edward W. Osborne Agricultural Engineering & Education 328 Mumford Hall • University of Illinois Urbana, IL 61801 (217) 244-8324 (Phil) p-buriak@uiuc.edu (217) 333-3166 (Ed) eosborne@uiuc.edu
May 1996 *Agricultural Education and Distance Education*	April 1, 1996	Tim H. Murphy Agricultural and Extension Education 223 Morrill Hall • University of Idaho Moscow, ID 83844-3012 (208) 885-6358 tmurphy@uidaho.edu
June 1996 *Young Farmer Education*	May 1, 1996	Maynard J. Iverson Agricultural Education Program 624 Aderhold Hall • University of Georgia Athens, GA 30602-7162 (706) 542-1204 miverson@uga.cc.uga.edu
July 1996 *Tech Prep: A Catalyst for Change*	June 1, 1996	Wayne L. Rush Tech Prep Coordinator State Division of Vocational Education P. O. Box 83720 • Boise, ID 83720-0095 (208) 334-3216 mrush@ved.state.id.us
August 1996 *Student Experiences in International Agriculture*	July 1, 1996	Robert Martin Agricultural Education and Studies 201 Curtiss Hall • Iowa State University Ames, IA 50011 (515) 294-0896 drmartin@iastate.edu
September 1996 *Annual Focus on Teaching*	August 1, 1996	James J. Connors Agricultural and Extension Education 223 Morrill Hall • University of Idaho Moscow, ID 83844-3012 (208) 885-6358 jconnors@uidaho.edu
October 1996 *Mentoring Beginning Teachers*	September 1, 1996	Dick Joerger Agricultural Systems and Technology Education UMC 2300 Utah State University Logan, UT 84322-2300 (801) 797-2267 djoerger@cc.usu.edu
November 1996 *Teacher Recruitment and Retention*	October 1, 1996	William G. Camp Agricultural Education Virginia Polytechnic Institute & State University Blacksburg, VA 24061-0343 (703) 231-8188 wgcamp@vtvm1.cc.vt.edu
December 1996 *Agricultural Mechanics and Agricultural Education*	November 1, 1996	Donald M. Johnson Agricultural and Extension Education 301B Agricultural Building • University of Arkansas Fayetteville, AR 72701 (501) 575-2035 dmjohnso@comp.uark.edu

The Road

The road that you travel
is the road that you choose.
It is you who will decide
if you win or lose.

All roads start
as unblazed trails.
The road cannot decide
if it is completed or if it fails.

It is the builder of the road
through his heart and his soul,
That ultimately determines
where the road is to go.

The builder of the road
and the life of the man,
Are one in the same,
both go where they can.

The road may be detoured
by a sidetrack and turn;
As life is full of choices and lessons
that the man must come to learn.

The road traveled most often
is smooth and easily crossed;
As a life without challenge offers little,
to be won or to be lost.

The harder the builder works
the harder it is for him to fail.
The more the man strives for success
the more likely it is that he will prevail.

The road covers many a mountain,
that it must try and climb.
Just as the man must conquer his goals
one at a time.

The road that you travel
is the road that you choose,
It is you that will decide
if you win...or...you lose.

Marcus G. Beitia